#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 31.05.95 Test oil : ISO 4113

Combination No. : 0 402 648 799

Injection pump

Pump designation : PE8P120A320LS7847-2

EP type number : 0 412 628 885

Governor

Governer design. : RQ300/1050PA1030-28

Governer no. : 0 421 801 778

Cust. part No. : 0260744102

Customer—spec. information Customer : MB-NFZ Motor : OM442 LA Power KW : 280.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp.  $^{\circ}$ C : 40 Tolerance  $^{\circ}$ C :  $\leftarrow$  2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance L/h: +- 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Toterance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : +- 0.30

Check

tolerance "NW : + 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 239.0

A01

Tolerance		+
cm3/1000 strokes	: : <del>+-</del> 1.0	+ Rated speed rpm : 540
		guide sleeve
Check tolerance		+ travel mm : 6.00
cm3/1000s.	: +- 4.0	+ Tolerance mm : + 0.10
tile/ 10000:	• • ••	
Spreed		- T Rated speed rpm : 1270
Tolerance		+ guide sleeve
cm3/1000 strokes	: 6.0	travel mm : 11.50
		_ + Tolerance mm : +- 0.50
Check tolerance		+
cm3/1000S.	: 9.0	+ Rated speed rpm : 828
		+ guide sleeve
Rated speed rpm	: 300	travel mm : 6.38
ridoca opera i più		+ Tolerance mm : +- 0.10
Rack travel in m	m: 5.70	Total dilec insir
		· T
Tolerance mm	: +- 0.50	CUIDE OF CENT DOCUTION
Del. quantity	47.0	+ GUIDE SLEEVE POSITION
cm3/1000 strokes	: 13.0	†
Tolerance		+ Rated speed rpm : 600
cm3/1000 strokes	: +- 3.0	+
Check tolerance		Rack travel in mm : 20.00
cm3/1000s.	: +- 6.0	+ Tolerance mm : + 0.80
Spreed		4
Tolerance		
cm3/1000 strokes	: 6.0	+ FULL LOAD DELIVERY AT FULL LOAD STOP
	. 0.5	T TOLL LOAD DELIVERY AT TOLL LOAD STOP
Check tolerance	10.0	T Detail aread was 550
cm3/1000s.	: 10.0	Rated speed rpm : 550
		+ Aneroid pressure
		→         hPa         : 1200
		t
(B) SETTING OF I	NJECTION PUMP	∔ Del. quantity
(B) SETTING OF I	NJECTION PUMP	+ Del. quantity + cm3/1000 strokes : 239.0
	NJECTION PUMP	+ cm3/1000 strokes : 239.0
	NJECTION PUMP	+ cm3/1000 strokes : 239.0 + Tolerance
WITH GOVERNOR		+ cm3/1000 strokes : 239.0 + Tolerance + cm3/1000 strokes : +- 1.0
		+ cm3/1000 strokes : 239.0 + Tolerance + cm3/1000 strokes : + 1.0 + Check tolerance
WITH GOVERNOR  GUIDE SLEEVE TRA	VEL	
GUIDE SLEEVE TRA	VEL	
GUIDE SLEEVE TRAI Rated speed rpm guide sleeve	VEL: 300	
GUIDE SLEEVE TRAI Rated speed rpm guide sleeve travel mm	VEL: 300:: 1.94	- cm3/1000 strokes : 239.0 - Tolerance - cm3/1000 strokes : 1.0 - Check tolerance - cm3/1000s. : 4.0 - Spreed - Tolerance - cm3/1000 strokes : 6.0
GUIDE SLEEVE TRAI Rated speed rpm guide sleeve	VEL: 300	- cm3/1000 strokes : 239.0 - Tolerance - cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0 - Spreed - Tolerance - cm3/1000 strokes : 6.0 - Check tolerance
GUIDE SLEEVE TRAI Rated speed rpm guide sleeve travel mm	VEL: 300: 1.94: +- 0.10	- cm3/1000 strokes : 239.0 - Tolerance - cm3/1000 strokes : 1.0 - Check tolerance - cm3/1000s. : 4.0 - Spreed - Tolerance - cm3/1000 strokes : 6.0
GUIDE SLEEVE TRAI Rated speed rpm guide sleeve travel mm	VEL: 300: 1.94: + 0.10	- cm3/1000 strokes : 239.0 - Tolerance - cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0 - Spreed - Tolerance - cm3/1000 strokes : 6.0 - Check tolerance
GUIDE SLEEVE TRAI Rated speed rpm guide sleeve travel mm Tolerance mm	VEL: 300: 1.94: + 0.10	- cm3/1000 strokes : 239.0 - Tolerance - cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0 - Spreed - Tolerance - cm3/1000 strokes : 6.0 - Check tolerance
WITH GOVERNOR  GUIDE SLEEVE TRAY  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	VEL  : 300  : 1.94  : + 0.10  : 1104	- cm3/1000 strokes : 239.0 - Tolerance - cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0 - Spreed - Tolerance - cm3/1000 strokes : 6.0 - Check tolerance - cm3/1000s. : 9.0
WITH GOVERNOR  GUIDE SLEEVE TRA  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm	VEL  : 300  : 1.94  : + 0.10  : 1104  : 6.84	- cm3/1000 strokes : 239.0 - Tolerance - cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0 - Spreed - Tolerance - cm3/1000 strokes : 6.0 - Check tolerance
WITH GOVERNOR  GUIDE SLEEVE TRAY  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	VEL  : 300  : 1.94  : + 0.10  : 1104	- cm3/1000 strokes : 239.0 - Tolerance - cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0 - Spreed - Tolerance - cm3/1000 strokes : 6.0 - Check tolerance - cm3/1000s. : 9.0
GUIDE SLEEVE TRAI  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	VEL  : 300  : 1.94 : + 0.10  : 1104  : 6.84 : + 0.10	- cm3/1000 strokes : 239.0  Tolerance cm3/1000 strokes : + 1.0  Check tolerance cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 6.0  Check tolerance cm3/1000s. : 9.0  RATED SPEED
GUIDE SLEEVE TRAI  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm Guide sleeve Travel mm Tolerance mm	VEL  : 300  : 1.94 : + 0.10  : 1104  : 6.84 : + 0.10	- cm3/1000 strokes : 239.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever
GUIDE SLEEVE TRAI  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	VEL  : 300  : 1.94 : + 0.10  : 1104  : 6.84 : + 0.10  : 1050	- cm3/1000 strokes : 239.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 99.0
GUIDE SLEEVE TRAI  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	<ul> <li>VEL</li> <li>: 300</li> <li>: 1.94</li> <li>: + 0.10</li> <li>: 1104</li> <li>: 6.84</li> <li>: + 0.10</li> <li>: 1050</li> <li>: 6.50</li> </ul>	- cm3/1000 strokes : 239.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever
GUIDE SLEEVE TRAI  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	<ul> <li>VEL</li> <li>: 300</li> <li>: 1.94</li> <li>: + 0.10</li> <li>: 1104</li> <li>: 6.84</li> <li>: + 0.10</li> <li>: 1050</li> <li>: 6.50</li> </ul>	cm3/1000 strokes : 239.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 99.0 tolerance degree : + 4.0
GUIDE SLEEVE TRA' Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	YEL  : 300  : 1.94 : + 0.10  : 1104  : 6.84 : + 0.10  : 1050  : 6.50 : + 0.10	cm3/1000 strokes : 239.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 13.30
GUIDE SLEEVE TRAI  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	YEL  : 300  : 1.94 : + 0.10  : 1104  : 6.84 : + 0.10  : 1050  : 6.50 : + 0.10	cm3/1000 strokes : 239.0   Tolerance   cm3/1000 strokes : + 1.0   Check tolerance   cm3/1000s. : + 4.0   Spreed   Tolerance   cm3/1000 strokes : 6.0   Check tolerance   cm3/1000s. : 9.0   RATED SPEED     RATED SPEED     control lever   position degree : + 99.0   tolerance degree : + 4.0   rack travel mm : 13.30   Rated speed rpm : 1098
GUIDE SLEEVE TRA' Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	YEL  : 300  : 1.94 : + 0.10  : 1104  : 6.84 : + 0.10  : 1050  : 6.50 : + 0.10	cm3/1000 strokes : 239.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 13.30
GUIDE SLEEVE TRA'  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	YEL  : 300  : 1.94 : + 0.10  : 1104  : 6.84 : + 0.10  : 1050  : 6.50 : + 0.10  : 732	cm3/1000 strokes : 239.0   Tolerance   cm3/1000 strokes : + 1.0   Check tolerance   cm3/1000s. : + 4.0   Spreed   Tolerance   cm3/1000 strokes : 6.0   Check tolerance   cm3/1000s. : 9.0   RATED SPEED     RATED SPEED     control lever   position degree : + 99.0   tolerance degree : + 4.0   rack travel mm : 13.30   Rated speed rpm : 1098
GUIDE SLEEVE TRA' Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	YEL  : 300  : 1.94 : + 0.10  : 1104  : 6.84 : + 0.10  : 1050  : 6.50 : + 0.10  : 732 : 6.13	Tolerance cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 13.30 Rated speed rpm : 1098 Tolerance 1/min : + 8
GUIDE SLEEVE TRA'  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	YEL  : 300  : 1.94 : + 0.10  : 1104  : 6.84 : + 0.10  : 1050  : 6.50 : + 0.10  : 732	Tolerance cm3/1000 strokes : 239.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 13.30 Rated speed rpm : 1098 Tolerance 1/min : + 8  rack travel mm : 4.00
GUIDE SLEEVE TRAY  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	VEL  : 300  : 1.94 : + 0.10  : 1104  : 6.84 : + 0.10  : 1050  : 6.50 : + 0.10  : 732  : 6.13 : + 0.10	Tolerance cm3/1000 strokes: 239.0 Tolerance cm3/1000 strokes: + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree: 99.0 tolerance degree: + 4.0  rack travel mm: 13.30 Rated speed rpm: 1098 Tolerance 1/min: + 8  rack travel mm: 4.00 Rated speed rpm: 1190
GUIDE SLEEVE TRA'  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	VEL  : 300  : 1.94 : + 0.10  : 1104  : 6.84 : + 0.10  : 1050  : 6.50 : + 0.10  : 732  : 6.13 : + 0.10	Tolerance cm3/1000 strokes : 239.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 13.30 Rated speed rpm : 1098 Tolerance 1/min : + 8  rack travel mm : 4.00
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	VEL  : 300  : 1.94 : + 0.10  : 1104  : 6.84 : + 0.10  : 1050  : 6.50 : + 0.10  : 732  : 6.13 : + 0.10  : 426	Tolerance cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 13.30 Rated speed rpm : 1098 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1190 Tolerance 1/min : + 15
GUIDE SLEEVE TRA' Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	VEL  : 300  : 1.94 : + 0.10  : 1104  : 6.84 : + 0.10  : 1050  : 6.50 : + 0.10  : 732  : 6.13 : + 0.10  : 426 : 4.29	Tolerance cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 13.30 Rated speed rpm : 1098 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1190 Tolerance 1/min : + 15  rack travel mm : 15
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	VEL  : 300  : 1.94 : + 0.10  : 1104  : 6.84 : + 0.10  : 1050  : 6.50 : + 0.10  : 732  : 6.13 : + 0.10  : 426	Tolerance cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 13.30 Rated speed rpm : 1098 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1190 Tolerance 1/min : + 15

Rated speed rpm	: 1350	+ Pressure hPa : 300 + rack travel mm : 12.55
LOW IDLE		Tolerance mm : +- 0.20
EOM IDEL		Pressure hPa : 450
		+ rack travel mm : 13.85
control lever		Tolerance mm : + 0.20
position degree	• 73.0	I roter differ that
tolerance degree		
toter drive degree	• • •••	START CUT-OUT
Testing:		1
100011191		+ Rated speed rpm :> 220
Rated speed rpm	: 300	+ Check
rack travel mm		- speed 1/min : > 240
Tolerance mm	: <del>-</del> 0.10	
rack travel mm	: 2.00	+ FUEL DELIVERY CHARACTERISTICS
Rated speed rpm		+
Tolerance 1/min		+ Aneroid pressure
		+ hPa : 1200
Rated speed rpm	: 200	+ Rated speed rpm : 1050
is a specie of the contract of		+ Del. quantity
CRT mm min.	: > 7.20	+ cm3/1000 strokes : 217.0
		+ Tolerance
		+ cm3/1000 strokes : + 2.0
TORQUE CONTROL		+ Check tolerance
		+  cm3/1000s. : + 5.0
Rated speed rpm	: 550	Spreed
rack travel mm		+ Tolerance
Tolerance mm		+ cm3/1000 strokes : 8.0
1010. 4.100		+ Check tolerance
Rated speed rpm	: 1050	+ cm3/1000s. : 12.0
		1
rack travel mm Tolerance mm	: +- 0.10	Aneroid pressure
TOCCI GIJOG TIMI		+ hPa : -
Rated speed rpm	: 850	+ Rated speed rpm : 500
rack travel mm		+ Del. quantity
Tolerance mm	: + 0.10	+ cm3/1000 strokes : 144.0
TOECT GITEC TIES		+ Tolerance
		+ cm3/1000 strokes : + 1.0
ANEROID/ALTITUDE		- Check tolerance
COMPENSATOR TEST		+  cm3/1000s. : + 4.0
		Spreed
		+ Tolerance
SETTING		+ cm3/1000 strokes : 8.0
		+ Check tolerance
Rated speed rpm	: 400	+ cm3/1000s. : 12.0
Pressure hPa		
rack travel mm	14.80	
Tolerance mm	: +- 0.05	BREAKAWAY
		+
MEASUREMENT		+
		+ Rack travel in mm : 13.30
Pressure hPa	: -	+ Rated speed rpm : 1098
Rated speed rpm		+ Tolerance 1/min : + 8
rack travel mm	: 11.35	+
Tolerance mm		+
Rated speed rpm	: 400	+ STARTING FUEL DELIVERY
•		+

100 Rated speed rpm

Del. quantity

cm3/1000 strokes : 210.0

Tolerance

cm3/1000 strokes : +- 20.0

Check tolerance

cm3/1000s.: +- 24.0

## LOW IDLE

Rated speed rpm 300 5.70 rack travel mm : +- 0.30 Tolerance mm

Del. quantity cm3/1000 strokes : 13.0

Tolerance

cm3/1000 strokes : +-3.0

Check tolerance

cm3/1000S.6.0

Spreed Tolerance

cm3/1000 strokes : 6.0

Check tolerance cm3/1000s.

10.0

End of test specification sheet

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 07.07.95 Test oil : ISO 4113

Combination No. : 0 402 648 9288

Injection pump

Pump designation : PE8P12OA32OLS7847...

EP type number : 0 412 628 879

Governor

Governer design. : RQ300/1050PA1030 Governer no. : 0 421 801 640

Cust. part No. : 0230741202

Customer—spec. information
Customer : MB-NFZ
Motor : 0M402 LA
Power KW : 280.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h:  $\leftarrow$  10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

#### **REMARKS**

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50Tolerance mm :  $\div$  0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315 Tolerance : +- 0.30

Check

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.50

Start of delivery mark

Barrel no. : 8

### BASIC SETTING

Rated speed rpm : 550

Rack travel in mm: 13.60

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 239.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 4.0	control lever
Spreed +	position degree : 96.0 tolerance degree : +- 4.0
cm3/1000 strokes : 6.0	rack travel mm : 11.90 Rated speed rpm : 1098
Check tolerance cm3/1000s. : 9.0	Tolerance 1/min : + 8
Rated speed rpm : 300	rack travel mm : 4.00 Rated speed rpm : 1175
Rack travel in mm: 5.50 Tolerance mm: +- 0.30 Del. quantity	rack travel mm : 0.75 Tolerance mm : +- 0.75 Rated speed rpm : 1350
cm3/1000 strokes : 13.0 +	
cm3/1000 strokes : +- 3.0 +- Check tolerance +-	LOW IDLE
cm3/1000s. : + 6.0 + 5preed + 70lerance + 6.0	control Lever position degree : 73.0
cm3/1000 strokes : 6.0 + Check tolerance + cm3/1000s. : 10.0 +	tolerance degree : +- 4.0 Testing:
. 10.0	Rated speed rpm : 300
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 5.50 Tolerance mm : + 0.10
	rack travel mm : 2.00 Rated speed rpm : 420
GUIDE SLEEVE POSITION	Tolerance 1/min : + 20
Rated speed rpm : 600	Rated speed rpm : 200
Rack travel in mm: 20.00 Tolerance mm: + 0.80	CRT mm min. :> 7.20
FULL LOAD DELIVERY AT FULL LOAD STOP	TORQUE CONTROL
Rated speed rpm : 550 +	Rated speed rpm : 550 rack travel mm : 13.60 Tolerance mm : + 0.05
Aneroid pressure hPa : 1200	
Del. quantity cm3/1000 strokes : 239.0 Tolerance	Rated speed rpm : 1050 rack travel mm : 12.90 Tolerance mm : +- 0.10
cm3/1000 strokes : +- 1.0 + + + + + + + + + + + + + + + + + + +	Rated speed rpm : 950
cm3/1000s. : +- 4.0 + Spreed	rack travel mm : 13.05 Tolerance mm : +- 0.10
Tolerance + cm3/1000 strokes : 6.0 + check tolerance + cm3/1000 strokes : 6.0 + check tolerance + cm3/1000 strokes : 6.0	Rated speed rpm : 775 rack travel mm : 13.55
cm3/1000s. : 9.0	Tolerance mm : + 0.10
RATED SPEED	

ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 400 : 1200 : 13.60 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 400 : 10.70 : +- 0.20
Rated speed rpm	: 400
Pressure hPa rack travel mm Tolerance mm	: 300 : 11.45 : ← 0.15
Pressure hPa rack travel mm	: 450 : 12.15
	: +- 0.10
Tolerance mm  FUEL DELIVERY CHA  Aneroid pressure hPa Rated speed rpm	
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	RACTERISTICS : 1200 : 1050
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	RACTERISTICS : 1200 : 1050
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	RACTERISTICS : 1200 : 1050 : 212.0
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	RACTERISTICS  : 1200 : 1050 : 212.0 : + 2.0
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	RACTERISTICS  : 1200 : 1050 : 212.0 : + 2.0 : + 5.0
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa	: 1200 : 1050 : 212.0 : + 2.0 : + 5.0 : 8.0
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Appreed Tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	RACTERISTICS  : 1200 : 1050 : 212.0 : + 2.0 : + 5.0 : 8.0 : 12.0 : -
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000s strokes Check tolerance cm3/1000s. Appressure hPa Rated speed rpm Del. quantity	RACTERISTICS  : 1200 : 1050 : 212.0 : + 2.0 : + 5.0 : 8.0 : 12.0 : 400

Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 8.0 : 12.0		
BREAKAWAY			
Rack travel in mm Rated speed rpm Tolerance 1/min	: 11.90 : 1098 : +- 8		
STARTING FUEL DEL	IVERY		
Rated speed rpm rack travel mm Del. quantity	: 100 : 10.70		
cm3/1000 strokes Tolerance	: 55.0		
cm3/1000 strokes Check tolerance	: + 10.0		
cm3/1000s.	: + 14.0		
LOW IDLE  Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes	: 300 : 5.50 : + 0.30 : 13.0 : + 3.0 : + 6.0 : 6.0 : 10.0		
End of test specification sheet			

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.07.95 Test oil : 180 4113

Combination No. : 0 402 648 929S

Injection pump

Pump designation : PE8P120A320LS7847-2

EP type number

Governor

Governer design. : RQV300...950PA1033

: -12

Governer no.

Cust. part No. : 0230741402

Customer—spec. information Customer : MB-NFZ Motor : OM402 LA Power KW : 280.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp.  $^{\circ}$ C : 40 Tolerance  $^{\circ}$ C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : ← 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3 :-5-4-1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance :  $\leftarrow$  0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 13.25 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 239.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000S. : + 4.0	guide sleeve travel mm : 10.00 Tolerance mm : + 0.25
Spreed Tolerance cm3/1000 strokes : 6.0	Rated speed rpm : 1210 guide sleeve
Check tolerance cm3/1000s. : 9.0	travel mm : 11.50 Tolerance mm : +- 0.50
Rated speed rpm : 300	GUIDE SLEEVE POSITION
Rack travel in mm: 5.50 Tolerance mm: + 0.30	Rated speed rpm : 1050
Del. quantity cm3/1000 strokes : 13.0 Tolerance	Rack travel in mm : 12.00 Tolerance mm : + 1.30
cm3/1000 strokes : + 3.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed Tolerance	Rated speed rpm : 550 Aneroid pressure
cm3/1000 strokes : 8.0 + Check tolerance +	hPa : 1200 Del. quantity
cm3/1000s. : 10.0	cm3/1000 strokes : 239.0 Tolerance
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed
GUIDE SLEEVE TRAVEL	Tolerance cm3/1000 strokes : 6.0
Rated speed rpm : 300 + guide sleeve +	Check tolerance cm3/1000s. : 9.0
travel mm : 1.49 + Tolerance mm : + 0.20 +	RATED SPEED
Rated speed rpm : 1009 guide sleeve	control lever
travel mm : 8.52 + Tolerance mm : + 0.15 +	position degree : 121.0 tolerance degree : +- 4.0
Rated speed rpm : 589 guide sleeve	rack travel mm : 12.00 Rated speed rpm : 998
travel mm : 4.97 Tolerance mm : + 0.25	Tolerance 1/min : + 8 rack travel mm : 4.00
Rated speed rpm : 639 guide sleeve	Rated speed rpm : 1075 Tolerance 1/min : + 15
travel mm : 5.51  Tolerance mm : + 0.25	rack travel mm : 0.75 Tolerance mm : + 0.75
Rated speed rpm : 790 guide sleeve	Rated speed rpm : 1350
travel mm : 6.48 + Tolerance mm : + 0.25 +	LOW IDLE
Rated speed rpm : 1100	

agentes lavos		†
control lever position degree tolerance degree	: 66.0 : + 4.0	START CUT-OUT  Rated speed rpm : < 220
Testing:		Check speed 1/min : < 240
Rated speed rpm rack travel mm Tolerance mm	: 5.50	FUEL DELIVERY CHARACTERISTICS
		+
Rated speed rpm		+ Aneroid pressure + hPa : 1200
CRT mm min.	: > 7.60	Rated speed rpm : 950 Del. quantity
Rated speed rpm	: 375	cm3/1000 strokes : 216.0 Tolerance
TORQUE CONTROL		cm3/1000 strokes : +- 2.0 Check tolerance
Rated speed rpm	: 550	cm3/1000s. : + 5.0 Spreed
rack travel mm Tolerance mm	: 13.25	Tolerance : 8.0
		+ Check tolerance
Rated speed rpm rack travel mm	: 950 · 13 00	† cm3/1000s. : 12.0
rack travel mm Tolerance mm	: ← 0.10	Aneroid pressure
Rated speed rpm	• 875	+ hPa : - + Rated speed rpm : 400
rack travel mm	: 13.25	<pre>Del. quantity</pre>
Tolerance mm	: + 0.10	+ cm3/1000 strokes : 107.0 + Tolerance
ANDROAD (A) TITLE		+ cm3/1000 strokes : +- 1.0
ANEROID/ALTITUDE COMPENSATOR TEST		+ Check tolerance - cm3/1000s. : + 4.0
		+ Spreed + Tolerance
SETTING		- cm3/1000 strokes : 8.0
Rated speed rpm	: 400	+ Check tolerance + cm3/1000s. : 12.0
Pressure hPa rack travel mm	: 1200	<del> </del>
Tolerance mm	: + 0.05	BREAKAWAY
MEASUREMENT		T Rack travel in mm: 12.00
Pressure hPa	: -	+ Rated speed rpm : 998
Rated speed rpm	400	Tolerance 1/min : + 8
rack travel mm Tolerance mm	: 10.70 : +- 0.20	† †
Rated speed rpm	: 400	STARTING FUEL DELIVERY
Pressure hPa	: 300	Rated speed rpm : 100
rack travel mm Tolerance mm	: 11.45 : +- 0.15	+ Del. quantity + cm3/1000 strokes : 200.0 + Tolerance
Pressure hPa	: 450	+ cm3/1000 strokes : +- 20.0
rack travel mm Tolerance mm		+ Check tolerance + cm3/1000s. : +- 24.0

## LOW IDLE

300 Rated speed rpm rack travel mm 5.50 0.30 Tolerance mm Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes 3.0 Check tolerance cm3/1000S. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Chack tolerance cm3/1000s. 10.0

End of test specification sheet

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 07.07.95 Edition : ISO 4113 Test oil

Combination No. : 0 402 648 930S

Injection pump

Pump designation : PE8P120A320LS7847 EP type number : 0 412 628 863

Governor

Governer design. : RQ300/1050PA1031-2

Governer no. : 0 421 801 645

Cust. part No. : 0230741502

Customer-spec. information Customer : MB-NFZ Motor : 0M402 LA Power KW : 280.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 417 413 025

1.5 Inlet press. bar : Tolerance bar : + 0.1

Tolerance l/h: +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 Tolerance bar

: 1 680 750 075 Test Lines

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.55 : +- 0.05 Tolerance mm

test only :  $\leftarrow$  0.10

Rack travel in mm: 20.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance : +- 0.30

Check

: +- 0.50 tolerance \*NW

Start of delivery mark

Barrel no. : 8

## BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 13.60 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 239.0

Tolerance

cm3/1000 strokes : + 1.0

Charle delements	
Check tolerance + 4.0 +	control lever
cm5/10005. : +- 4.0 †	
Spreed	position degree : 99.0 tolerance degree : +- 4.0
Tolerance	tolerance degree : +- 4.0
cm3/1000 strokes : 6.0	rack travel mm : 11.90
Chis/ rough strokes: 6.6	
Charle to Language	Rated speed rpm : 1098
Check tolerance	Tolerance 1/min : +- 8
cm3/1000s. : 9.0 +	made through an
Dahad award mus 700	rack travel mm : 4.00
Rated speed rpm : 300	Rated speed rpm : 1175
Parali Americal din manche E EO	Tolerance 1/min : +- 15
Rack travel in mm: 5.50	
Tolerance mm : + 0.30	rack travel mm : 0.75
Del. quantity	Tolerance mm : + 0.75
cm3/1000 strokes : 13.0	Rated speed rpm : 1350
Tolerance +	
cm3/1000 strokes : +- 3.0 +	LOUTING
Check tolerance + 6.0 +	LOW IDLE
Spreed +	control lever
Tolerance + cm3/1000 strokes : 6.0 +	position degree : 74.0
Check tolerance	tolerance degree : +- 4.0
cm3/1000s. : 10.0	toterance degree . 4.0
10.0	Testing:
1	resemble
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 300
WITH GOVERNOR	rack travel mm : 5.50
1	Tolerance mm : + 0.10
1	. 510, 91,00 111,0
	rack travel mm : 2.00
GUIDE SLEEVE POSITION +	Rated speed rpm : 420
+	Tolerance 1/min : +- 20
Rated speed rpm : 600 +	,
+	Rated speed rpm : 200
Rack travel in mm: 20.00 +	
Tolerance mm : +- 0.80 +	CRT mm min. :> 7.20
+	
CIVIL LOAD DELTHERY AT SUIL LOAD GTOD	TODAUE CONTROL
FULL LOAD DELIVERY AT FULL LOAD STOP	TORQUE CONTROL
Catad aread area : ESO	
Rated speed rpm : 550 +	Dated and an FEO
	Rated speed rpm : 550
Aneroid pressure +	rack travel mm : 13.60
Aneroid pressure + hPa : 1200 +	
Aneroid pressure hPa : 1200 + Del. quantity +	rack travel mm : 13.60 Tolerance mm : +- 0.05
Aneroid pressure hPa : 1200 + Del. quantity + cm3/1000 strokes : 239.0 +	rack travel mm : 13.60 Tolerance mm : + 0.05  Rated speed rpm : 1050
Aneroid pressure hPa : 1200 + Del. quantity + cm3/1000 strokes : 239.0 + Tolerance +	rack travel mm : 13.60 Tolerance mm : + 0.05  Rated speed rpm : 1050 rack travel mm : 12.90
Aneroid pressure hPa : 1200  Del. quantity cm3/1000 strokes : 239.0  Tolerance cm3/1000 strokes : - 1.0	rack travel mm : 13.60 Tolerance mm : + 0.05  Rated speed rpm : 1050
Aneroid pressure hPa : 1200  Del. quantity cm3/1000 strokes : 239.0  Tolerance cm3/1000 strokes : - 1.0 Check tolerance	rack travel mm : 13.60 Tolerance mm : + 0.05  Rated speed rpm : 1050 rack travel mm : 12.90 Tolerance mm : + 0.10
Aneroid pressure hPa : 1200  Del. quantity cm3/1000 strokes : 239.0  Tolerance cm3/1000 strokes : → 1.0  Check tolerance cm3/1000s. : + 4.0	rack travel mm : 13.60 Tolerance mm : + 0.05  Rated speed rpm : 1050 rack travel mm : 12.90 Tolerance mm : + 0.10  Rated speed rpm : 950
Aneroid pressure hPa : 1200  Del. quantity cm3/1000 strokes : 239.0  Tolerance cm3/1000 strokes : - 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed	rack travel mm : 13.60 Tolerance mm : + 0.05  Rated speed rpm : 1050 rack travel mm : 12.90 Tolerance mm : + 0.10  Rated speed rpm : 950 rack travel mm : 13.05
Aneroid pressure hPa : 1200  Del. quantity cm3/1000 strokes : 239.0  Tolerance cm3/1000 strokes : - 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance	rack travel mm : 13.60 Tolerance mm : + 0.05  Rated speed rpm : 1050 rack travel mm : 12.90 Tolerance mm : + 0.10  Rated speed rpm : 950
Aneroid pressure hPa : 1200  Del. quantity cm3/1000 strokes : 239.0  Tolerance cm3/1000 strokes : - 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0	rack travel mm : 13.60 Tolerance mm : + 0.05  Rated speed rpm : 1050 rack travel mm : 12.90 Tolerance mm : + 0.10  Rated speed rpm : 950 rack travel mm : 13.05 Tolerance mm : + 0.10
Aneroid pressure hPa : 1200  Del. quantity cm3/1000 strokes : 239.0  Tolerance cm3/1000 strokes : - 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance	rack travel mm : 13.60 Tolerance mm : + 0.05  Rated speed rpm : 1050 rack travel mm : 12.90 Tolerance mm : + 0.10  Rated speed rpm : 950 rack travel mm : 13.05 Tolerance mm : + 0.10  Rated speed rpm : 775
Aneroid pressure hPa : 1200  Del. quantity cm3/1000 strokes : 239.0  Tolerance cm3/1000 strokes : - 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0	rack travel mm : 13.60 Tolerance mm : + 0.05  Rated speed rpm : 1050 rack travel mm : 12.90 Tolerance mm : + 0.10  Rated speed rpm : 950 rack travel mm : 13.05 Tolerance mm : + 0.10  Rated speed rpm : 775 rack travel mm : 13.60
Aneroid pressure hPa : 1200  Del. quantity cm3/1000 strokes : 239.0  Tolerance cm3/1000 strokes : - 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance	rack travel mm : 13.60 Tolerance mm : + 0.05  Rated speed rpm : 1050 rack travel mm : 12.90 Tolerance mm : + 0.10  Rated speed rpm : 950 rack travel mm : 13.05 Tolerance mm : + 0.10  Rated speed rpm : 775
Aneroid pressure hPa : 1200  Del. quantity cm3/1000 strokes : 239.0  Tolerance cm3/1000 strokes : - 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance	rack travel mm : 13.60 Tolerance mm : + 0.05  Rated speed rpm : 1050 rack travel mm : 12.90 Tolerance mm : + 0.10  Rated speed rpm : 950 rack travel mm : 13.05 Tolerance mm : + 0.10  Rated speed rpm : 775 rack travel mm : 13.60

		† Tolerance
ANEDOTO / AL TITUDE		- + cm3/1000 strokes : +- 1.0
ANEROID/ALTITUDE COMPENSATOR TEST		+ Check tolerance - cm3/1000s. : + 4.0
CON LHONION 1251		# Spreed
		Tolerance
SETTING		+ cm3/1000 strokes : 8.0
		+ Check tolerance
Rated speed rpm		+ cm3/1000s. : 12.0
Pressure hPa rack travel mm	: 1200 : 13.60	İ
Tolerance mm	: +- 0.05	BREAKAWAY
		+
MEASUREMENT		Rack travel in mm : 11.90
Pressure hPa	: -	+ Rated speed rpm : 1098
Rated speed rpm	: 400	+ Tolerance 1/min : +- 8
rack travel mm	: 10.70	†
Tolerance mm	: <b>←</b> 0.20	İ
Rated speed rpm	: 400	STARTING FUEL DELIVERY
Pressure hPa	: 300	+ Rated speed rpm : 100
rack travel mm	: 11.45	+ Del. quantity
Tolerance mm	: + 0.15	+ cm3/1000 strokes : 270.0
D		† Tolerance
Pressure hPa rack travel mm	: 450 : 12.15	t cm3/1000 strokes : + 20.0 Check tolerance
Tolerance mm	: + 0.10	+ cm3/1000s. : + 24.0
	• • • • • • • • • • • • • • • • • • • •	+
START CUT-OUT		- <del> </del>
Rated speed rpm	: < 220	+ LOW IDLE
Check		+
speed 1/min	: < 240	Rated speed rpm : 300
		rack travel mm : 5.50
FUEL DELIVERY CHA	NACTEDICTICS	-
FUEL DELIVERY CHA	ARACTERISTICS	- cm3/1000 strokes : 13.0
Aneroid pressure		+ Tolerance
hPa	: 1200	+ cm3/1000 strokes : +- 3.0
Rated speed rpm	: 1050	+ Check tolerance
Del. quantity cm3/1000 strokes	: 212.0	+ cm3/1000s. : + 6.0 + Spreed
Tolerance	: 212.0	Tolerance
cm3/1000 strokes	: +- 2.0	+ cm3/1000 strokes : 6.0
Check tolerance		+ Check tolerance
cm3/1000S.	: ← 5.0	+ cm3/1000s. : 10.0
Spreed		†
Tolerance cm3/1000 strokes	: 8.0	1
Check tolerance	: 8.0	I
cm3/1000s.	: 12.0	
A		Find of heat annulfication shows
Aneroid pressure	• -	End of test specification sheet
hPa Rated speed rpm	400	I
Del. quantity	. 100	+
cm3/1000 strokes	: 107.0	+
		•

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.07.95 Edition : ISO 4113 Test oil

Combination No. : 0 402 648 931S

## Injection pump

Pump designation : PE8P12GA32OLS7847-1 EP type number : 0 412 628 879

Governor

Governer design. : RQ300/950PA1032-1 Governer no. : 0 421 801 646

Cust. part No. : 0230741302

Customer-spec. information : MB-NFZ Customer Motor : 0M402 LA Power KW : 280.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : Tolerance bar : +- 0.1

Overflow quantity

min. L/h 110 Tolerance l/h : ← 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar : **←** 1.5 Tolerance bar

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : x length mm : 1000

#### REMARKS

# (A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 5.55 : +- 0.05 Tolerance mm

test only : + 0.10

Rack travel in mm: 20.50 Tolerance mm :  $\leftarrow$  0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

: 0-45-90-135-180 Phasing

: -225-270-315

Tolerance : **←** 0.30

Check

tolerance \*NW : + - 0.50

Start of delivery mark

Barrel no. 8

#### BASIC SETTING

550 Rated speed rpm :

Rack travel in mm: 13.60 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 239.0

Talamana	1
Tolerance -	†
cm3/1000 strokes : + 1.0	DATES COULD
Charle de Language	RATED SPEED
Check tolerance - cm3/1000s. : +- 4.0 -	<u>†</u>
cm3/1000s. : +- 4.0	
Consord	control lever
Spreed -	position degree : 97.0
Tolerance -	tolerance degree : +- 4.0
cm3/1000 strokes : 6.0	
Charle de Lavance	rack travel mm : 12.00
Check tolerance	Rated speed rpm : 998
cm3/1000s. : 9.0 -	Tolerance 1/min : + 8
Data demand ann a 200	
Rated speed rpm : 300 -	rack travel mm : 4.00
Park Assurt & server 5 50	Rated speed rpm : 1070
Rack travel in mm: 5.50	Tolerance 1/min : + 15
Tolerance mm : + 0.30	t
Del. quantity	rack travel mm : 0.75
cm3/1000 strokes : 13.0	Tolerance mm : + 0.75
Tolerance	Rated speed rpm : 1350
cm3/1000 strokes : +- 3.0	
Check tolerance	
cm3/1900s. : +- 6.0	LOW IDLE
Spreed -	-
Tolerance	<b>-</b>
cm3/1000 strokes : 6.0 -	- control lever
Check tolerance	position degree : 73.0
cm3/1000s. : 10.0	tolerance degree : +- 4.0
<del>1</del>	_
- <u> </u>	- Testing:
(B) SETTING OF INJECTION PUMP	<b>-</b>
WITH GOVERNOR	Rated speed rpm : 300
	rack travel mm : 5.50
•	Tolerance mm : + 0.10
	<b>,</b> , , , , , , , , , , , , , , , , , ,
GUIDE SLEEVE POSITION -	rack travel mm : 2.00
	- Rated speed rpm : 420
Rated speed rpm : 600 -	Tolerance 1/min : +- 20
	-
Rack travel in mm: 20.00	- Rated speed rpm : 200
Tolerance mm : + 0.80	-
7	- CRT mm min. : > 7.50
FULL LOAD DELIVERY AT FULL LOAD STOP	
FULL LUAD DELIVERY AT FULL LUAD STUP	TORQUE CONTROL
Rated speed rpm : 550	TONGOE CONTROL
· · · · · · · · · · · · · · · · · · ·	- Rated speed rpm : 550
Aneroid pressure	- Rated speed rpm : 550 - rack travel mm : 13.60
hPa : 1200	- Tolerance mm : +- 0.05
Del. quantity	roterance in : +- 0.05
cm3/1000 strokes : 239.0	Poted around the CEO
Tolerance	- Rated speed rpm : 950
cm3/1000 strokes : +- 1.0	rack travel mm : 13.00
Check tolerance	Tolerance mm : $+$ 0.10
cm3/1000s. : + 4.0	Datadanada 07"
Spreed	Rated speed rpm : 875
Tolerance	rack travel mm : 13.25
cm3/1000 strokes : 6.0	- Tolerance mm : +- 0.10
Check tolerance fm3/1000s. : 9.0	-
cm3/1000s. : 9.0 +	

		+ Tolerance
ANCOATA /ALTERIAC		+ cm3/1000 strokes : +- 1.0
ANEROID/ALTITUDE		+ Check tolerance + cm3/1000s. : + 4.0
COMPENSATOR TEST		• • • • • • • • • • • • • • • • • • • •
		+ Spreed + Tolerance
SETTING		+ cm3/1000 strokes : 8.0
SCILLING		Check tolerance
Rated speed rpm	: 400	cm3/1000s. : 12.0
Pressure hPa		1 (115) 10000:
rack travel mm	: 13.60	
Tolerance mm	: + 0.05	BREAKAWAY
		+
MEASUREMENT		+
		+ Rack travel in mm: 12.00
Pressure hPa	: -	+ Rated speed rpm : 998
Rated speed rpm		+ Tolerance 1/min : + 8
rack travel mm	: 10.70	†
Tolerance mm	: +- 0.20	I
Rated speed rpm	: 400	STARTING FUEL DELIVERY
Pressure hPa	: 300	Rated speed rpm : 100
rack travel mm	: 11.45	+ rack travel mm : 10.70
Tolerance mm	: + 0.15	Tolerance mm : + 0.20
TOTEL GLICE IMI	. 1 0.15	+ Del. quantity
Pressure hPa	: 450	+ cm3/1000 strokes : 55.0
rack travel mm	: 12.15	+ Tolerance
Tolerance mm	_ `	+ cm3/1000 strokes : + 10.0
		+ Check tolerance
		+ cm3/1000s. : +- 14.0
START CUT-OUT		1
Rated speed rpm	: > 220	+
Check		+
speed 1/min	: > 240	+ LOW IDLE
		Data demand was 200
FUEL DELTHEON CUA	DACTEDICTICS	+ Rated speed rpm : 300 + rack travel mm : 5.50
FUEL DELIVERY CHA	RACIERISTICS	
Ananaid anaccura		+ Tolerance mm : + 0.30 + Del. quantity
Aneroid pressure hPa	: 1200	+ cm3/1000 strokes : 13.0
nra Rated speed rpm	: 950	+ Tolerance
Del. quantity	• ///	+ cm3/1000 strokes : +- 3.0
cm3/1000 strokes	: 216.0	Check tolerance
Tolerance	. 2,0.0	$+ \text{ cm}^3/1000\text{s}. : + 6.0$
cm3/1000 strokes	: +- 2.0	Spreed
Check tolerance		+ Tolerance
cm3/1000s.		
	: +- 5.0	+ cm3/1000 strokes : 6.0
	: +- 5.0	+ cm3/1000 strokes : 6.0 + Check tolerance
Spreed	: <del></del> 5.0	
Spreed Tolerance	: +- 5.0 : 8.0	+ Check tolerance
Spreed Tolerance cm3/1000 strokes	: 8.0	+ Check tolerance
Spreed Folerance cm3/1000 strokes Check tolerance		+ Check tolerance
Spreed Folerance cm3/1000 strokes Check tolerance cm3/1000s.	: 8.0	+ Check tolerance
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure	: 8.0	+ Check tolerance
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa	: 8.0 : 12.0 : -	Check tolerance cm3/1000s. : 10.0
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure nPa Rated speed rpm	: 8.0	+ Check tolerance
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure	: 8.0 : 12.0 : - : 400	Check tolerance cm3/1000s. : 10.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.07.95 Edition Test oil : ISO 4113

Combination No. : 0 402 648 9338

Injection pump

Pump designation : PE8P120A320LS7847 EP type number : 0 412 628 863

Governor

Governer design. : RQ300/950PA1031-3 Governer no. : 0 421 801 646

Cust. part No. : 0230742702

Customer-spec. information Customer : MB-NFZ Motor : 0M402 LA : 280.0 Power KW

#### TEST BENCH REQUIREMENTS

: 3.1 Inlet line

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar Tolerance bar 0.1

Tolerance l/h: +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar 1.5 Tolerance bar

Test lines : 1 680 750 075 Outside diameter : 8.0

x inside diameter: 3.0

: 1000 x length mm

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

Prestroke mm 5.55 : +- 0.05 Tolerance mm

test only : + 0.10

Rack travel in mm: 20.50 Tolerance mm :  $\leftarrow$  0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

: 0-45-90-135-180 Phasing

: -225-270-315

: +- 0.30 Tolerance

Check

: +- 0.50 tolerance °NW

Start of delivery mark

Barrel no. 8

#### BASIC SETTING

Rated speed rpm : 550

Rack travel in mm: 13.60 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 239.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

Check tolerance cm3/1000s. : +- 4.0	control lever position degree : 97.0
Spreed -	tolerance degree : +- 4.0
cm3/1000 strokes : 6.0	rack travel mm : 12.00 Rated speed rpm : 998
Check tolerance - cm3/1000s. : 9.0 -	Tolerance 1/min : +- 8 rack travel mm : 4.00
Rated speed rpm : 300	Rated speed rpm : 1080 Tolerance 1/min : +- 15
Rack travel in mm: 5.50	
Tolerance mm : + 0.30	rack travel mm : 0.75
Del. quantity	Tolerance mm : + 0.75
cm3/1000 strokes : 13.0	Rated speed rpm : 1350
Tolerance	- The second of the second of
cm3/1000 strokes : +- 3.0	
Check tolerance	- LOW IDLE
cm3/1000s. : + 6.0	- 204 1966
Spreed -	
Tolerance	- control lever
cm3/1000 strokes : 6.0	position degree : 73.0
Check tolerance	tolerance degree : + 4.0
cm3/1000s. : 10.0	toterance degree : +- 4.0
CIB3/ 10003 16.9	Testing:
]	resting.
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 300
WITH GOVERNOR	rack travel mm : 3.50
MILL GOVERNOR	
•	Tolerance mm : + 0.10
1	
CUITAT OLD TO CONTROLL	rack travel mm : 2.00
GUIDE SLEEVE POSITION	Rated speed rpm : 350
7.1.1	- Tolerance 1/min : +- 20
Rated speed rpm : 600	Patad annual mum
Real Annual in my 20.00	- Rated speed rpm : 200
Rack travel in mm : 20.00	COTi E EO
Tolerance mm : + 0.80	- CRT mm min. : > 5.50
FULL LOAD DELIVERY AT FULL LOAD STOP	- TORQUE CONTROL
-	•
Rated speed rpm : 550	- Rated speed rpm : 550
Aneroid pressure	rack travel mm : 13.60
hPa : 1200 +	- Tolerance mm : + 0.05
Del. quantity	•
cm3/1000 strokes : 239.0	- Rated speed rpm : 950
Tolerance	rack travel mm : 13.00
cm3/1000 strokes : + 1.0	- Tolerance mm : + 0.10
Check tolerance	s and the second
cm3/1000s. : +- 4.0	- Rated speed rpm : 875
Spreed	rack travel mm : 13.25
Tolerance	Tolerance mm : + 0.10
cm3/1000 strokes : 6.0	- Total arice mail
Check tolerance	
	ANEDOTO/ALTITUDE
cm3/1000s. : 9.0	- ANEROID/ALTITUDE
†	COMPENSATOR TEST
DATED COPED	•
RATED SPEED	
+	SETTING

Rated speed rpm Pressure hPa rack travel mm	: 1200	Check tolerance cm3/1000s. : 12.0
Tolerance mm	: +- 0.05	- BREAKAWAY
MEASUREMENT		Rack travel in mm : 12.00
Pressure hPa Rated speed rpm rack travel mm Tolerance mm		Rated speed rpm : 998 Tolerance 1/min : + 8
Rated speed rpm	: 400	STARTING FUEL DELIVERY
Pressure hPa rack travel mm Tolerance mm	: 300 : 11.45 : ← 0.15	Rated speed rpm : 100  Del. quantity  cm3/1000 strokes : 210.0  Tolerance
Pressure hPa rack travel mm Tolerance mm	: 450 : 12.15 : + 0.10	cm3/1000 strokes : +- 15.0 Check tolerance cm3/1000s. : +- 19.0
START CUT-OUT		
Rated speed rpm Check	: < 220	LOW IDLE
speed 1/min	: < 240	Rated speed rpm : 300 rack travel mm : 5.50 Tolerance mm : + 0.30
FUEL DELIVERY CHA	ARACTERISTICS	Del. quantity - cm3/1000 strokes : 13.0
Aneroid pressure hPa Rated speed rpm	: 1200 : 950	+ Tolerance + cm3/1000 strokes : + 3.0 + Check tolerance
Del. quantity cm3/1000 strokes		+ cm3/1000s. : + 6.0 + Spreed
Tolerance cm3/1000 strokes Check tolerance	: <del>-</del> 2.0	+ Tolerance + cm3/1000 strokes : 6.0 + Check tolerance
cm3/1000s. Spreed Tolerance	: +- 5.0	+ cm3/1000s. : 10.0
cm3/1000 strokes Check tolerance	: 8.0	<del>-</del>
cm3/1000s.	: 12.0	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed		End of test specification sheet
Tolerance cm3/1000 strokes	: 8.0	‡

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.07.95 Test oil : ISO 4113

Combination No. : 0 402 648 940S

Injection pump

Pump designation : PE8P120A320LS7847 EP type number : 0 412 628 863

Governor

Governer design. : RQ300/950PA1032-4 Governer no. : 0 421 801 661

Cust. part No. : 0240740602

Customer-spec. information : MB-NFZ Customer : 0M402 LA Motor Power KW : 280.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

: 1 417 413 025 Overflow valve

1.5 Inlet press. bar : Tolerance bar 0.1

: +- 10.0 Tolerance l/h

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

: 1 680 750 075 Test lines

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.55 : + 0.05Tolerance mm

: + 0.10test only

Rack travel in mm: 20.50 Tolerance mm : + 0.50

: 8-7-2-6-3 Firing order

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance : + - 0.30

Check

tolerance °NW : + 0.50

Start of delivery mark

Barrel no.

### BASIC SETTING

Rated speed rpm 550

Rack travel in mm: 13.25 : + 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 226.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : + 4.0	control lever
Spreed Tolerance	position degree : 96.0 tolerance degree : +- 4.0
cm3/1000 strokes : 6.0	rack travel mm : 12.00 Rated speed rpm : 998
Check tolerance cm3/1000s. : 9.0	Tolerance 1/min : + 8
Rated speed rpm : 300	rack travel mm : 4.00 Rated speed rpm : 1075 Tolerance 1/min : +- 15
Rack travel in mm: 5.50	
Tolerance mm : + 0.30 +	rack travel mm : 0.75
Del. quantity +	Tolerance mm : + 0.75
cm3/1000 strokes : 13.0 +	Rated speed rpm : 1350
cm3/1000 strokes : +- 3.0	Vertical and the second
Check tolerance	LOW IDLE
cm3/1000s. : + 6.0 +	
Spreed	
Tolerance + cm3/1000 strokes : 6.0 +	control lever
Check tolerance	position degree : 74.0 tolerance degree : +- 4.0
cm3/1000s. : 10.0	toter affect degree 4.0
+	Testing:
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 300 rack travel mm : 5.50 Tolerance mm : + 0.10
	rack travel mm : 2.00
GUIDE SLEEVE POSITION	Rated speed rpm : 405 Tolerance 1/min : +- 20
Rated speed rpm : 600	Total and Thinks 20
+	Rated speed rpm : 200
Rack travel in mm: 20.00	. 7.00
Tolerance mm : + 0.80 +	CRT mm min. :> 7.00
FULL LOAD DELIVERY AT FULL LOAD STOP	TORQUE CONTROL
Rated speed rpm : 550	Rated speed rpm : 550
Aneroid pressure +	rack travel mm : 13.25
hPa : 1200 +	Tolerance mm : +- 0.05
Del. quantity + cm3/1000 strokes : 226.0 +	Rated speed rpm : 950
Tolerance	Rated speed rpm : 950 rack traval mm : 13.00
cm3/1000 strokes : + 1.0	Tolerance mm : +- 0.10
Check tolerance	
cm3/1000s. : $+$ 4.0 $+$	Rated speed rpm : 875
Spreed	rack travel mm : 13.25
Tolerance + cm3/1000 strokes : 6.0 +	Tolerance mm : + 0.10
Check tolerance	
cm3/1000s. : 9.0	ANEROID/ALTITUDE COMPENSATOR TEST
RATED SPEED	
דאובט ארבכט	SETTING
Т	

Rated speed rpm Pressure hPa rack travel mm	: 1200	+ Check tolerance cm3/1000s. : 12.0	
Tolerance mm	: + 0.05	BREAKAWAY	
MEASUREMENT		Rack travel in mm: 12.00	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	400 10.70 + 0.20	Rated speed rpm : 998 Tolerance 1/min : + 8	
Rated speed rpm	: 400	STARTING FUEL DELIVERY	
Pressure hPa rack travel mm Tolerance mm		Rated speed rpm : 100 + rack travel mm : 10.70 + Del. quantity + cm3/1000 strokes : 60.0	
Pressure hPa rack travel mm Tolerance mm		Tolerance cm3/1000 strokes : +- 10.0 Check tolerance	
OTADT OUT OUT			
START CUT-OUT	: > 220	†	
Rated speed rpm Check speed 1/min		LOW IDLE	
Speed (7mm)	. / 640	Rated speed rpm : 300 rack travel mm : 5.50	
FUEL DELIVERY CHA	ARACTERISTICS	+ Tolerance mm : +- 0.30 + Del. quantity	
Aneroid pressure hPa	: 1200	t cm3/1000 strokes : 13.0 t Tolerance	
Rated speed rpm Del. quantity		cm3/1000 strokes : + 3.0 check tolerance	
cm3/1000 strokes Tolerance		cm3/1000s. : +- 6.0 Spreed	
cm3/1000 strokes Check tolerance		Tolerance cm3/1000 strokes : 6.0	
cm3/1000s. Spreed	: <b>←</b> 5.0	Check tolerance cm3/1000s. : 10.0	
Tolerance cm3/1000 strokes Check tolerance	: 8.0	$\frac{1}{2}$	
cm3/1000s.	: 12.0		
Aneroid pressure	: -	End of test specification she	et
Rated speed rpm Del. quantity	: 400	<del> </del>	
cm3/1000 strokes Tolerance	: 107.0	‡	
cm3/1000 strokes Check tolerance	: + 1.0	‡	
cm3/1000s. Spreed Tolerance	: +- 4.0	‡	
cm3/1000 strokes	: 8.0	+	

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.07.95 Edition Test oil : ISO 4113

Combination No. : 0 402 648 9418

Injection pump

Pump designation: PE8P120A320LS7847 EP type number : 0 412 628 863

Governor

Governer design. : RQV300...950PA1033

: -7

: 0 421 814 019 Governer no.

Cust. part No. : 0240742202

Customer-spec. information Customer : MB-NFZ Motor : 0M402 LA : 280.0 Power KW

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 : +- 2.0 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : +-0.1

Tolerance l/h: +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

bar 208.5 : +- 1.5 Tolerance bar

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter :

x length mm : 1000

#### REMARKS

## (A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 5.55 : +- 0.05 Tolerance mm

test only : + 0.10

Rack travel in mm: 20.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315 : ← 0.30

Check

Tolerance

tolerance "NW : + 0.50

Start of delivery mark

Barrel no.

### BASIC SETTING

Rated speed rpm : 550

Rack travel in mm: 13.25 Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 226.0

Tolerance		+
cm3/1000 strokes	: +- 1.0	Rated speed rpm : 1100 guide sleeve
Check tolerance	/ 0	travel mm : 10.00
cm3/1000s.	: +- 4.0	Tolerance mm : +- 0.25
Spreed		Rated speed rpm : 1210
Tolerance	: 6.0	guide sleeve
cm3/1000 strokes	: 0.0	+ travel mm : 11.50 - Tolerance mm : ← 0.50
Check tolerance		-
cm3/1000s.	: 9.0 -	GUIDE SLEEVE POSITION
Rated speed rpm	: 300	GOIDE SEEEVE POSITION
	-	Rated speed rpm : 1050
Rack travel in ma Tolerance mm		t Rack travel in mm : 12.00
Del. quantity	. +- 0.50	Tolerance mm : +- 1.30
cm3/1000 strokes	: 13.0	+
Tolerance		FILL LOAD DELTHEDY AT FULL LOAD CTOO
cm3/1000 strokes Check tolerance	: +- 3.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s.	: +- 6.0	- Rated speed rpm : 550
Spreed		- Aneroid pressure - hPa : 1200
Tolerance cm3/1000 strokes	: 6.0	- hPa : 1200 - Del. quantity
Check tolerance	+	- cm3/1000 strokes : 226.0
cm3/1000s.	: 10.0	- Tolerance
	]	cm3/1000 strokes : +- 1.0 Check tolerance
(B) SETTING OF IN	NJECTION PUMP	- cm3/1000s. : +- 4.0
WITH GOVERNOR	+	- Spreed
		- Tolerance - cm3/1000 strokes : 6.0
GUIDE SLEEVE TRAN	VEL -	- Check tolerance
Datad anad no	: 300	- cm3/1000s. : 9.0
Rated speed rpm guide sleeve	: 300	
travel mm	: 1.49	- RATED SPEED
Tolerance mm	: +- 0.15	-
Rated speed rpm	: 1009	- control lever
guide sleeve	+	- position degree : 121.0
travel mm	: 8.52 - 0.45	tolerance degree : +- 4.0
Tolerance mm	: +- 0.15	- - rack travel mm : 12.00
Rated speed rpm	: 589	- Rated speed rpm : 998
guide sleeve	+	- Tolerance 1/min : +- 5
travel mm Tolerance mm	: 4.97 : + 0.25	- - rack travel mm : 4.00
וטנכו מוונע ווווו	1	- Rated speed rpm : 1075
Rated speed rom	: 639	- Tolerance 1/min : + 15
guide sleeve	: 5.51	- - rack travel mm : 0.75
travel mm Tolerance mm	: + 0.25	- rack travet mm : 0.75 - Tolerance mm : +- 0.75
50, 41,00 11811	+	- Rated speed rpm : 1350
Rated speed rpm	: 790	-
guide sleeve travel mm	: 6.48	- LOW IDLE
Tolerance mm	: + 0.25	- FOM TAPE

		1
control lever position degree tolerance degree		START CUT-OUT
Testing:		Rated speed rpm : < 220 Check
Rated speed rpm rack travel mm Tolerance mm	: 5.50	speed 1/min : < 240  FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 200	Aneroid pressure
CRT mm min.	: > 7.60	+ hPa : 1200 + Rated speed rpm : 950
Rated speed rpm	: 375	Del. quantity cm3/1000 strokes : 216.0 Tolerance
TORQUE CONTROL		- + cm3/1000 strokes : + 2.0 + Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 13.25	+ cm3/1000s. : + 5.0 - Spreed - Tolerance - cm3/1000 strokes : 8.0
Rated speed rpm rack travel mm	: 950 : 13.00	Check tolerance : 12.0
Tolerance mm Rated speed rpm		+ Aneroid pressure + hPa : - + Rated speed rpm : 400
rack travel mm Tolerance mm	: 13.25	+ Del. quantity + cm3/1000 strokes : 107.0
ANICOOTO (A) TITUOS		- Tolerance - cm3/1000 strokes : + 1.0
ANEROID/ALTITUDE COMPENSATOR TEST		+ Check tolerance + cm3/1000S. : +- 4.0 + Spreed
SETTING		Tolerance cm3/1000 strokes : 8.0 Check tolerance
Rated speed rpm Pressure hPa	: 400 : 1200	cm3/1000s. : 12.0
rack travel mm Tolerance mm	: 13.25 : + 0.05	BREAKAWAY
MEASUREMENT		+ Rack travel in mm : 12.00
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 400 : 10.70 : ← 0.20	Rated speed rpm : 998 Tolerance 1/min : + 5
Rated speed rpm	: 400	STARTING FUEL DELIVERY
Pressure hPa rack travel mm Tolerance mm	: 450 : 12.15 : ← 0.10	Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 200.0
Pressure hPa rack travel mm Tolerance mm	: 300 : 11.45 : +- 0.15	+ Tolerance + cm3/1000 strokes : +- 10.0 + Check tolerance + cm3/1000s. : +- 14.0
COLET GITCE TIME	. F . U. (2)	T (1100)

# LOW IDLE

Rated speed rpm	:	300
rack travel mm	:	5.50
Tolerance mm	: +-	0.30
Del. quantity		
cm3/1000 strokes	:	13.0
Tolerance		
cm3/1000 strokes	: +-	3.0
Check tolerance		
cm3/1000s.	: +-	6.0
Spreed		
Tolerance		
cm3/1000 strokes	:	6.0
Check tolerance		
cm3/1000s.	:	10.0

End of test specification sheet

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 19.07.95

Test oil

: ISO 4113

Combination No. : 0 402 648 942S

Injection pump

Pump designation: PE8P120A320LS7847

EP type number : 0 412 628 863

Governor

Governer no.

Governer design. : RQ300/950PA1031-6

: 0 421 801 662

Cust. part No. : 0240742302

Customer-spec. information Customer : MB-NFZ : 0M402 LA Motor

Power KW

: 280.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110 Tolerance l/h: + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar :  $\leftarrow$  1.0

Prestroke mm : 5.55 : + 0.05Tolerance mm

test only : + 0.10

Rack travel in mm: 20.50 Tolerance mm :  $\leftarrow$  0.50

: 8-7-2-6-3 Firing order

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315

: **←** 0.30 Tolerance

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no.

## BASIC SETTING

Rated speed rpm : 550

Rack travel in mm: 13.25

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 226.0

Tolerance + cm3/1000 strokes : + 1.0 +	
<u> </u>	RATED SPEED
Check tolerance + 4.0 +	
Spreed	control lever position degree : 96.0
Tolerance + cm3/1000 strokes : 6.0 +	tolerance degree : +- 4.0
Check tolerance	rack travel mm : 12.00 Rated speed rpm : 998
cm3/1000s. : 9.0	Tolerance 1/min : + 8
Rated speed rpm : 300	rack travel mm : 4.00 Rated speed rpm : 1075
Rack travel in mm: 5.50	Tolerance 1/min : + 15
Tolerance mm : + 0.30 + Del. quantity +	rack travel mm : 0.75
cm3/1000 strokes : 13.0	Tolerance mm : +- 0.75 Rated speed rpm : 1350
$cm3/1000$ strokes : $\leftarrow$ 3.0	Nated speed (pill . 1330
Check tolerance cm3/1000s. : + 6.0	LOW IDLE
Spreed +	
cm3/1000 strokes : 6.0	control lever
Check tolerance cm3/1000s. : 10.0	position degree : 75.0 tolerance degree : +- 4.0
‡	Testing:
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 300
#2117 GOVENNON	rack travel mm : 3.50
	Tolerance mm : + 0.10
GUIDE SLEEVE POSITION	rack travel mm : 2.00
Rated speed rpm : 600 +	Rated speed rpm : 405 Tolerance 1/min : + 20
Rack travel in mm: 20.00	Rated speed rpm : 200
Tolerance mm : +- 0.80	CRT mm min. :> 7.00
FULL LOAD DELIVERY AT FULL LOAD STOP	
<del>-</del>	TORQUE CONTROL
Rated speed rpm : 550 + Aneroid pressure +	Rated speed rpm : 550
hPa : 1200 +	rack travel mm : 13.25 Tolerance mm : +- 0.05
cm3/1000 strokes : 226.0 +	
Tolerance + cm3/1000 strokes : + 1.0 +	Rated speed rpm : 950 rack travel mm : 13.00 Tolerance mm : +- 0.10
Check tolerance + 4.0 +	Tolerance mm : +- 0.10
Spreed +	Rated speed rpm : 875
Tolerance + cm3/1000 strokes : 6.0 +	rack travel mm : 13.25 Tolerance mm : +- 0.05
Check tolerance cm3/1000s. : 9.0	
CHI3/ 10003. : 9.0	

		+ Tolerance
ANCOATA /ALTITUDE	<del> </del>	
ANEROID/ALTITUDE COMPENSATOR TEST		+ Check tolerance + cm3/1000s. : +- 4.0
OCH ENOMICK TECT		Spreed
		+ Tolerance
SETTING		+ cm3/1000 strokes : 8.0
Rated speed rpm	: 400	+ Check tolerance + cm3/1000s. : 12.0
Pressure hPa	: 1200	+
rack travel mm	: 13.25	
Tolerance mm	: +- 0.05	+ BREAKAWAY
MEASUREMENT		Pools Annual in my 42.00
Pressure hPa	• -	+ Rack travel in mm : 12.00 + Rated speed rpm : 998
Rated speed rpm	: 400	Tolerance 1/min : + 8
rack travel mm	: 10.70	+
Tolerance mm	: ← 0.20	<u> </u>
Rated speed rpm	: 400	STARTING FUEL DELIVERY
Pressure hPa	<b>:</b> 450	Rated speed rpm : 100
rack travel mm	: 12.15	+ Del. quantity
Tolerance mm	: ← 0.10	+ cm3/1000 strokes : 270.0
D	. 700	+ Tolerance
Pressure hPa rack travel mm	: 300 : 11.45	+ cm3/1000 strokes : +- 10.0 + Check tolerance
Tolerance mm		cm3/1000s. : +- 14.0
		+
START CUT-OUT		<del></del> ‡
Rated speed rpm	: > 220	LOW IDLE
Check speed 1/min	: > 240	Rated speed rpm : 300
speed minn	. > 240	+ Rated speed rpm : 300 + rack travel mm : 5.50
FUEL DELIVERY CHA	ARACTERISTICS	+ Del. quantity
Amamadal massacra		- cm3/1000 strokes : 13.0
Aneroid pressure hPa	: 1200	+ Tolerance + cm3/1000 strokes : +- 3.0
Rated speed rpm	: 950	+ Check tolerance
Del. quantity		+ cm3/1000s. : + 6.0
cm3/1000 strokes	: 216.0	+ Spreed
Tolerance cm3/1000 strokes	: <del>+</del> 2.0	+ Tolerance + cm3/1000 strokes : 6.0
Check tolerance	. r== c.u	+ Check tolerance
cm3/1000s.	: +- 5.0	+ cm3/1000s. : 10.0
Spreed		+
Tolerance	. 00	†
cm3/1000 strokes Check tolerance	: 8.0	1
cm3/1000s.	: 12.0	I
A		
Aneroid pressure	• -	End of test specification sheet
hPa Rated speed rpm	: 400	Ī
Del. quantity		1
cm3/1000 strokes	: 107.0	<del>}</del>

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 07.07.95 : ISO 4113

Combination No. : 0 402 648 9458

Injection pump

Pump designation : PE8P120A320LS7847 EP type number : 0 412 628 863

Governor

Governer design. : RQ300/1050PA1030-6

Governer no. : 0 421 801 666

Cust. part No. : 0230747802

Customer-spec. information Customer : MB-NFZ : 0M402 LA Motor Power KW : 280.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : +-0.1

Tolerance l/h: + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

bar

208.5

Tolerance bar

1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter:

x length mm : 1000

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

#### BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

Prestroke mm Tolerance mm : 5.55 : +- 0.05

test only : + 0.10

Rack travel in mm: 20.50 Tolerance mm :  $\leftarrow$  0.50

: 8-7-2-6-3 Firing order

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315 : ← 0.30

: +- 0.50

Tolerance Check

Start of delivery mark

tolerance "NW

Barrel no.

## BASIC SETTING

Rated speed rpm : 550

8

Rack travel in mm: 13.25 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 226.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

Check tolerance + 4.0 +	control lever
Spreed	position degree : 97.0 tolerance degree : +- 4.0
Tolerance	note: and dogs to the specific
cm3/1000 strokes : 6.0	rack travel mm : 11.90 Rated speed rpm : 1098
Check tolerance	Tolerance 1/min : + 8
cm3/1000s. : 9.0	Total disce (7)()(1)
1	rack travel mm : 4.00
Rated speed rpm : 300	Rated speed rpm : 1175
rated speed thin . 300	
Dark daniel da en la F. FO	Tolerance 1/min : +- 15
Rack travel in mm: 5.50	0.70
Tolerance mm : + 0.30 +	rack travel mm : 0.70
Del. quantity +	Tolerance mm : + 0.70
cm3/1000 strokes : 13.0 +	Rated speed rpm : 1300
Tolerance	
cm $3/1000$ strokes : $\leftarrow$ 3.0 $+$	<del></del>
Check tolerance +	LOW IDLE
cm3/1000s. : +- 6.0	
Spreed	
Tolerance	control lever
cm3/1000 strokes : 6.0	position degree : 72.0
Check tolerance	tolerance degree : + 4.0
cm3/1000s. : 10.0	
+	Testing:
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 300
WITH GOVERNOR +	rack travel mm : 5.50
<u>†</u>	Tolerance mm : +- 0.10
†	2.00
	rack travel mm : 2.00
GUIDE SLEEVE POSITION +	Rated speed rpm : 420
†	Tolerance 1/min : +- 20
Rated speed rpm : 600 +	
<u> </u>	Rated speed rpm : 200
Rack travel in mm: 20.00 +	
Tolerance mm : + 0.80 +	CRT mm min. :> 7.20
<del></del> ‡	
FULL LOAD DELIVERY AT FULL LOAD STOP	TORQUE CONTROL
Rated speed rpm : 550	Rated speed rpm : 550
Aneroid pressure	rack travel mm : 13.25
hPa : 1200	Tolerance mm : + 0.05
Del. quantity	, 4 101 GETO 1997
cm3/1000 strokes : 226.0	Rated speed rpm : 1050
Tolerance	rack travel mm : 12.90
cm3/1000 strokes : +- 1.0	Tolerance mm : +- 0.10
	TOLET GITCE TRUE . T U. IU
Check tolerance	Rated speed rpm : 950
cm3/1000s. : +- 4.0 +	
Spreed	rack travel mm : 13.05
Tolerance	Tolerance mm : + 0.10
cm3/1000 strokes : 6.0 +	m
Check tolerance +	Rated speed rpm : 800
cm3/1000s. : 9.0 +	rack travel mm : 13.25
<b>+</b>	Tolerance mm : + 0.05
•	
RATED SPEED	
RATED SPEED	

ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 400 : 1200 : 13.25 : +- 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	400 10.70 + 0.20
Rated speed rpm	: 400
Pressure hPa rack travel mm Tolerance mm	: 450 : 12.15 : + 0.10
Pressure hPa rack travel mm Tolerance mm	: 300 : 11.45 : + 0.15
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure	: 1200
Rated speed rpm Del. quantity	: 1050
cm3/1000 strokes Tolerance	: 212.0
cm3/1000 strokes Check tolerance	: +- 2.0
cm3/1000s. Spreed Tolerance	: +- 5.0
cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
Aneroid pressure	_
hPa Rated speed rom	400
Del. quantity cm3/1000 strokes	: 107.0
Tolerance cm3/1000 strokes	: + 1.0

4.0

cm3/1000 strokes : 8.0 Check tolerance cm3/1000s.12.0 BREAKAWAY 11.90 Rack travel in mm : Rated speed rpm : 1098
Tolerance 1/min : + 8 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm 10.70 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 strokes : + 10.0Check tolerance cm3/1000s. : + 14.0LOW IDLE Rated speed rpm : 300 5.50 rack travel mm : Tolerance mm : **←** 0.30 Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 10.0 End of test specification sheet

Tolerance

Check tolerance

cm3/1000s. Spreed

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.07.95 Edition : ISO 4113 Test oil

Combination No. : 0 402 648 946S

## Injection pump

Pump designation : PE8P120A320LS7847 EP type number : 0 412 628 863

#### Governor

Governer design. : RQ300/1050PA1031-7 : 0 421 801 667 Governer no.

Cust. part No. : 0230747902

Customer-spec. information Customer : MB-NFZ : 0M402 LA Motor Power KW : 280.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 417 413 025

1.5 Inlet press. bar : 0.1 Tolerance bar

Tolerance l/h:  $\leftarrow$  10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 075 Outside diameter : 8.0

3.0 x inside diameter : x Length mm : 1000

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

5.55 Prestroke mm : +- 0.05 Tolerance mm

test only : + 0.10

Rack travel in mm : 20.50 Tolerance m :  $\leftarrow$  0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

: 0-45-90-135-180 Phasing

: -225-270-315 : + - 0.30

Check

Tolerance

: +- 0.50 tolerance °NW

Start of delivery mark

Barrel no. 8

## BASIC SETTING

550 Rated speed rpm :

13.25 Rack travel in mm : Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 226.0

Tolerance

cm3/1000 strokes : + 1.0

**B06** 

Check tolerance - 4.0 - 4.0	- control lever
	position degree : 97.0
Spreed	tolerance degree : +- 4.0
cm3/1000 strokes : 6.0	- rack travel mm : 11.90 - Rated speed rpm : 1098
Check tolerance cm3/1000s. : 9.0	- Tolerance 1/min : +- 8
Rated speed rpm : 300	rack travel mm : 4.00 - Rated speed rpm : 1190 - Tolerance 1/min : +- 15
Rack travel in mm: 5.70	- Tolerance 1/min : +- 15
Tolerance mm : + 0.30	- rack travel mm : 0.70
Del. quantity	- Tolerance mm : +- 0.70
cm3/1000 strokes : 13.0 +	- Rated speed rpm : 1300
Tolerance	-
cm3/1000 strokes : +- 3.0 +- Check tolerance	- LOW IDLE
cm3/1000s. : +- 6.0	
Spreed	-
Tolerance	- control lever
cm3/1000 strokes : 6.0 +	- position degree : 70.0
Check tolerance + cm3/1000s. : 10.0 +	- tolerance degree : +- 4.0
. 10.0	Testing:
(B) SETTING OF INJECTION PUMP	- Rated speed rpm : 300
WITH GOVERNOR	rack travel mm : 3.50
+	Tolerance mm : + 0.10
†	
GUIDE SLEEVE POSITION	rack travel mm : 2.00 Rated speed rpm : 405
GOIDE SEELVE POSITION	Tolerance 1/min : +- 20
Rated speed rpm : 600	•
+	Rated speed rpm : 200
Rack travel in mm: 20.00 + Tolerance mm: + 0.80 +	· CRT mm min. :> 7.10
Tolerance mm : + 0.80	CRIMMINIA. :> 7.10
SULL LOAD DELTASEDY AT SULL LOAD OTOD	TODOUS CONTROL
FULL LOAD DELIVERY AT FULL LOAD STOP	TORQUE CONTROL
<del></del>	
Rated speed rpm : 550	Rated speed rpm : 550
Aneroid pressure	rack travel mm : 13.25
Aneroid pressure + 1200 + 1	Rated speed rpm : 550 rack travel mm : 13.25 Tolerance mm : + 0.05
Aneroid pressure hPa : 1200 + Del. quantity +	rack travel mm : 13.25 Tolerance mm : + 0.05
Aneroid pressure hPa : 1200 + Del. quantity cm3/1000 strokes : 226.0 +	rack travel mm : 13.25 Tolerance mm : + 0.05 Rated speed rpm : 1050
Aneroid pressure hPa : 1200  Del. quantity cm3/1000 strokes : 226.0  Tolerance	rack travel mm : 13.25 Tolerance mm : + 0.05
Aneroid pressure hPa : 1200  Del. quantity cm3/1000 strokes : 226.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance	rack travel mm : 13.25 Tolerance mm : + 0.05  Rated speed rpm : 1050 rack travel mm : 12.90 Tolerance mm : + 0.10
Aneroid pressure hPa : 1200  Del. quantity cm3/1000 strokes : 226.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0	rack travel mm : 13.25 Tolerance mm : + 0.05  Rated speed rpm : 1050 rack travel mm : 12.90 Tolerance mm : + 0.10  Rated speed rpm : 950
Aneroid pressure hPa : 1200  Del. quantity cm3/1000 strokes : 226.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed	rack travel mm : 13.25 Tolerance mm : + 0.05  Rated speed rpm : 1050 rack travel mm : 12.90 Tolerance mm : + 0.10  Rated speed rpm : 950
Aneroid pressure hPa : 1200  Del. quantity cm3/1000 strokes : 226.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance	rack travel mm : 13.25 Tolerance mm : + 0.05  Rated speed rpm : 1050 rack travel mm : 12.90 Tolerance mm : + 0.10  Rated speed rpm : 950
Aneroid pressure hPa : 1200  Del. quantity cm3/1000 strokes : 226.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0	rack travel mm : 13.25 Tolerance mm : + 0.05  Rated speed rpm : 1050 rack travel mm : 12.90 Tolerance mm : + 0.10  Rated speed rpm : 950 rack travel mm : 13.05 Tolerance mm : + 0.10
Aneroid pressure hPa : 1200  Del. quantity cm3/1000 strokes : 226.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance	rack travel mm : 13.25 Tolerance mm : + 0.05  Rated speed rpm : 1050 rack travel mm : 12.90 Tolerance mm : + 0.10  Rated speed rpm : 950 rack travel mm : 13.05 Tolerance mm : + 0.10  Rated speed rpm : 800 rack travel mm : 13.25
Aneroid pressure hPa : 1200  Del. quantity cm3/1000 strokes : 226.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance	rack travel mm : 13.25 Tolerance mm : + 0.05  Rated speed rpm : 1050 rack travel mm : 12.90 Tolerance mm : + 0.10  Rated speed rpm : 950 rack travel mm : 13.05 Tolerance mm : + 0.10  Rated speed rpm : 800
Aneroid pressure hPa : 1200  Del. quantity cm3/1000 strokes : 226.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance	rack travel mm : 13.25 Tolerance mm : + 0.05  Rated speed rpm : 1050 rack travel mm : 12.90 Tolerance mm : + 0.10  Rated speed rpm : 950 rack travel mm : 13.05 Tolerance mm : + 0.10  Rated speed rpm : 800 rack travel mm : 13.25

		† Tolerance
ANEROID/ALTITUDE		
COMPENSATOR TEST		+ cm3/1000s. : +- 4.0
COLUMN TON TEOL		Spreed
		+ Tolerance
SETTING		+ cm3/1000 strokes : 8.0
		+ Check tolerance
Rated speed rpm		+ cm3/1000s. : 12.0
Pressure hPa		+
rack travel mm		DOCALALIAN
Tolerance mm	: ← 0.05	† BREAKAWAY
MEASUREMENT		I
· IEAOONEI IEI		Rack travel in mm: 11.90
Pressure hPa	: -	+ Rated speed rpm : 1098
Rated speed rpm	: 400	+ Tolerance 1/min : + 8
rack travel mm	: 10.70	+
Tolerance mm	: ← 0.20	†
Rated speed rpm	: 400	STARTING FUEL DELIVERY
D		hand and the same Asso
Pressure hPa rack travel mm	: 450 : 12.15	+ Rated speed rpm : 100
rack travet mm Tolerance mm	· · · · · · · · · · · · · · · · · · ·	+ Del. quantity + cm3/1000 strokes : 285.0
ioterance iini	. += 0.10	Tolerance
Pressure hPa	: 300	+ cm3/1000 strokes : +- 10.0
rack travel mm	: 11.45	+ Check tolerance
Tolerance mm	: +- 0.15	+ cm3/1000s. : +- 14.0
		+
START CUT-OUT		<del></del>
Rated speed rpm	: < 220	LOW IDLE
Check		+
speed 1/min	: < 240	+ Rated speed rpm : 300
		+ rack travel mm : 5.70 + Tolerance mm : + 0.30
FUEL DELIVERY CHA	ADACTEDICTICS	Del. quantity
OFF DEFTACK! CU	TRACIERISIIO	cm3/1000 strokes : 13.0
Aneroid pressure		+ Tolerance
hPa	: 1200	+ cm3/1000 strokes : + 3.0
Rated speed rpm	: 1050	+ Check tolerance
Del. quantity		+ cm3/1000s. : $+$ 6.0
cm3/1000 strokes	: 212.0	+ Spreed
Folerance		+ Tolerance
cm3/1000 strokes	: +- 2.0	+ cm3/1000 strokes : 6.0 + Check tolerance
Check tolerance cm3/1000s.	: +- 5.0	+ cm3/1000s. : 10.0
Spreed		10.0
Folerance		1
cm3/1000 strokes	: 8.0	+
heck tolerance		+
m3/1000s.	: 12.0	+
		Food of book amonification shock
Ineroid pressure	•	+ End of test specification sheet
nPa Rated speed rpm	400	I
el. quantity	. 400	1
m3/1000 strokes	: 107.0	1
	, ,,,,,,	ı

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.07.95 Test oil : ISO 4113

Combination No. : 0 402 648 947A

Injection pump

Pump designation : PE8P12OA32OLS7859 EP type number : 0 412 628 869

Governor

Governer design. : RQ300/950PA1032-12 Governer no. : 0 421 801 741

Cust. part No. : 0230749602

Customer—spec. information Customer : MB-NFZ Motor : OM442 LA Power KW : 320.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp.  $^{\circ}$ C : 40 Tolerance  $^{\circ}$ C :  $\leftarrow$  2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Tolerance l/h: + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50Tolerance mm :  $\leftarrow 0.50$ 

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance :  $\leftarrow$  0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 8

# BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.00 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 254.0

Tolerance

cm3/1000 strokes : +- 1.0

B09

Check tolerance + 4.0 +	control lever
Spreed Tolerance	position degree : 97.0 tolerance degree : +- 4.0
cm3/1000 strokes : 6.0	rack travel mm : 14.00 Rated speed rpm : 998
Check tolerance cm3/1000s. 9.0	Tolerance 1/min : +- 8
Rated speed rpm : 300	rack travel mm : 4.00 Rated speed rpm : 1090 Tolerance 1/min : +- 15
Rack travel in mm: 6.10	
Tolerance mm : + 0.30	rack travel mm : 0.75
Del. quantity cm3/1000 strokes : 19.0	Tolerance mm : $\leftarrow$ 0.75 Rated speed rpm : 1200
Tolerance + 3.0 +	
Check tolerance	LOW IDLE
$cm3/1000s.$ : $\leftarrow$ 6.0	
Spreed	
Tolerance +	control lever
cm3/1000 strokes : 6.0 + Check tolerance +	position degree : 74.0 tolerance degree : +- 4.0
cm3/1000s. : 10.0	coterance degree . F- 4.0
+	Testing:
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 300
WITH GOVERNOR	rack travel mm : 6.10
+	Tolerance mm : + 0.10
+	
	rack travel mm : 2.00
GUIDE SLEEVE POSITION +	Rated speed rpm : 430
+	Tolerance 1/min : +- 30
Rated speed rpm : 600	Tolerance 1/min : + 30
Rated speed rpm : 600  Rack travel in mm : 20.00	Tolerance 1/min : + 30 Rated speed rpm : 200
Rated speed rpm : 600	Tolerance 1/min : + 30
Rated speed rpm : 600  Rack travel in mm : 20.00	Tolerance 1/min : + 30 Rated speed rpm : 200
Rated speed rpm : 600  Rack travel in mm : 20.00	Tolerance 1/min : + 30 Rated speed rpm : 200
Rated speed rpm : 600  Rack travel in mm : 20.00 Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance 1/min : + 30  Rated speed rpm : 200  CRT mm min. : > 9.00  TORQUE CONTROL
Rated speed rpm : 600  Rack travel in mm : 20.00 Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 550 Aneroid pressure	Tolerance 1/min : + 30  Rated speed rpm : 200  CRT mm min. : > 9.00  TORQUE CONTROL  Rated speed rpm : 550 rack travel mm : 15.00
Rated speed rpm : 600  Rack travel in mm : 20.00 Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 550 Aneroid pressure hPa : 1000	Tolerance 1/min : + 30  Rated speed rpm : 200  CRT mm min. : > 9.00  TORQUE CONTROL  Rated speed rpm : 550
Rated speed rpm : 600  Rack travel in mm : 20.00 Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 550 Aneroid pressure hPa : 1000 Del. quantity	Tolerance 1/min : + 30  Rated speed rpm : 200  CRT mm min. : > 9.00  TORQUE CONTROL  Rated speed rpm : 550 rack travel mm : 15.00 Tolerance mm : + 0.05
Rated speed rpm : 600  Rack travel in mm : 20.00 Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 550 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 254.0	Tolerance 1/min : + 30  Rated speed rpm : 200  CRT mm min. : > 9.00  TORQUE CONTROL  Rated speed rpm : 550 rack travel mm : 15.00 Tolerance mm : + 0.05  Rated speed rpm : 950
Rated speed rpm : 600  Rack travel in mm : 20.00 Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 550 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 254.0 Tolerance	Tolerance 1/min : + 30  Rated speed rpm : 200  CRT mm min. : > 9.00  TORQUE CONTROL  Rated speed rpm : 550 rack travel mm : 15.00 Tolerance mm : + 0.05  Rated speed rpm : 950 rack travel mm : 15.00
Rated speed rpm : 600  Rack travel in mm : 20.00 Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 550 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : + 1.0	Tolerance 1/min : + 30  Rated speed rpm : 200  CRT mm min. : > 9.00  TORQUE CONTROL  Rated speed rpm : 550 rack travel mm : 15.00 Tolerance mm : + 0.05  Rated speed rpm : 950
Rated speed rpm : 600  Rack travel in mm : 20.00 Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 550 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 254.0 Tolerance	Tolerance 1/min : + 30  Rated speed rpm : 200  CRT mm min. : > 9.00  TORQUE CONTROL  Rated speed rpm : 550 rack travel mm : 15.00 Tolerance mm : + 0.05  Rated speed rpm : 950 rack travel mm : 15.00 Tolerance mm : + 0.05
Rated speed rpm : 600  Rack travel in mm : 20.00 Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 550 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed	Tolerance 1/min : + 30  Rated speed rpm : 200  CRT mm min. : > 9.00  TORQUE CONTROL  Rated speed rpm : 550 rack travel mm : 15.00 Tolerance mm : + 0.05  Rated speed rpm : 950 rack travel mm : 15.00 Tolerance mm : + 0.05  ANEROID/ALTITUDE
Rated speed rpm : 600  Rack travel in mm : 20.00 Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 550 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance	Tolerance 1/min : + 30  Rated speed rpm : 200  CRT mm min. : > 9.00  TORQUE CONTROL  Rated speed rpm : 550 rack travel mm : 15.00 Tolerance mm : + 0.05  Rated speed rpm : 950 rack travel mm : 15.00 Tolerance mm : + 0.05
Rated speed rpm : 600  Rack travel in mm : 20.00 Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 550 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0	Tolerance 1/min : + 30  Rated speed rpm : 200  CRT mm min. : > 9.00  TORQUE CONTROL  Rated speed rpm : 550 rack travel mm : 15.00 Tolerance mm : + 0.05  Rated speed rpm : 950 rack travel mm : 15.00 Tolerance mm : + 0.05  ANEROID/ALTITUDE
Rack travel in mm: 20.00 Tolerance mm: + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm: 550 Aneroid pressure hPa: 1000 Del. quantity cm3/1000 strokes: 254.0 Tolerance cm3/1000 strokes: + 1.0 Check tolerance cm3/1000s: + 4.0 Spreed Tolerance cm3/1000 strokes: 6.0 Check tolerance	Tolerance 1/min : + 30  Rated speed rpm : 200  CRT mm min. : > 9.00  TORQUE CONTROL  Rated speed rpm : 550 rack travel mm : 15.00 Tolerance mm : + 0.05  Rated speed rpm : 950 rack travel mm : 15.00 Tolerance mm : + 0.05  ANEROID/ALTITUDE COMPENSATOR TEST
Rated speed rpm : 600  Rack travel in mm : 20.00 Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 550 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0	Tolerance 1/min : + 30  Rated speed rpm : 200  CRT mm min. : > 9.00  TORQUE CONTROL  Rated speed rpm : 550 rack travel mm : 15.00 Tolerance mm : + 0.05  Rated speed rpm : 950 rack travel mm : 15.00 Tolerance mm : + 0.05  ANEROID/ALTITUDE
Rack travel in mm: 20.00 Tolerance mm: + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm: 550 Aneroid pressure hPa: 1000 Del. quantity cm3/1000 strokes: 254.0 Tolerance cm3/1000 strokes: + 1.0 Check tolerance cm3/1000s: + 4.0 Spreed Tolerance cm3/1000 strokes: 6.0 Check tolerance	Tolerance 1/min : + 30  Rated speed rpm : 200  CRT mm min. : > 9.00  TORQUE CONTROL  Rated speed rpm : 550 rack travel mm : 15.00 Tolerance mm : + 0.05  Rated speed rpm : 950 rack travel mm : 15.00 Tolerance mm : + 0.05  ANEROID/ALTITUDE COMPENSATOR TEST  SETTING  Rated speed rpm : 400
Rack travel in mm: 20.00 Tolerance mm: + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm: 550 Aneroid pressure hPa: 1000 Del. quantity cm3/1000 strokes: 254.0 Tolerance cm3/1000 strokes: + 1.0 Check tolerance cm3/1000s: + 4.0 Spreed Tolerance cm3/1000 strokes: 6.0 Check tolerance	Tolerance 1/min : + 30  Rated speed rpm : 200  CRT mm min. : > 9.00  TORQUE CONTROL  Rated speed rpm : 550 rack travel mm : 15.00 Tolerance mm : + 0.05  Rated speed rpm : 950 rack travel mm : 15.00 Tolerance mm : 15.00 Tolerance mm : 0.05  ANEROID/ALTITUDE COMPENSATOR TEST

Tolerance mm	: ← 0.05	†
MEASUREMENT		BREAKAWAY
Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: - : 400 : 9.10 : ← 0.15 : 400	Rack travel in mm: 14.00 Rated speed rpm: 998 Tolerance 1/min: + 8
Pressure hPa rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm	: 250 : 10.80 : + 0.15 : 550 : 13.70 : + 0.15	STARTING FUEL DELIVERY  Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 235.0 Tolerance cm3/1000 strokes : + 15.0 Check tolerance cm3/1000s. : + 19.0
Rated speed rpm Check speed 1/min	: > 220 : > 240	LOW IDLE
FUEL DELIVERY CHARACTER Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  Aneroid pressure hPa	: 1000 : 950 : 242.0 : ← 2.0 : ← 5.0 : 8.0 : 12.0	Rated speed rpm : 300 rack travel mm : 6.10 Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 10.0
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 500 : 135.0 : +- 1.0 : +- 4.0 : 8.0 : 12.0	End of test specification sheet

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.07.95 Test oil : ISO 4113

Combination No. : 0 402 648 9478

Injection pump

Pump designation : PE8P12OA32OLS7859 EP type number : 0 412 628 869

Governor

Governer design. : RQ300/950PA1032-5 Governer no. : 0 421 801 668

Cust. part No. : 0230749602

Customer—spec. information
Customer : MB—NFZ
Motor : OM442 LA
Power KW : 320.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h: +- 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only  $: \leftarrow 0.10$ 

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315 : +- 0.30

Check

Tolerance

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.50

Start of delivery mark

Barrel no. : 8

#### BASIC SETTING

Rated speed rpm : 550

Rack travel in mm: 15.00

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 254.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 4.0	travel mm : 11.50 Tolerance mm : + 0.50
Spreed	+
Tolerance cm3/1000 strokes : 6.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. 9.0	Rated speed rpm : 600
Rated speed rpm : 300	Rack travel in mm : 20.00 Tolerance mm : +- 0.80
Resk travel in mm: 6.10	İ
Tolerance mm : +- 0.30 Del. quantity	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : 19.0 Tolerance	Rated speed rpm : 550 Aneroid pressure
cm3/1000 strokes : + 3.0 Check tolerance	hPa : 1000 Del. quantity
cm3/1900s. : + 6.0 Spreed	cm3/1000 strokes : 254.0 Tolerance
Tolerance cm3/1000 strokes : 6.0	cm3/1000 strokes : +- 1.0 + Check tolerance
Check tolerance cm3/1000S. : 10.0	cm3/1000s. : +- 4.0 + Spreed
	Tolerance cm3/1000 strokes : 6.0
(B) SETTING OF INJECTION FUMP WITH GOVERNOR	+ Check tolerance + cm3/1000s. : 9.0
	<u> </u>
GUIDE SLEEVE TRAVEL	RATED SPEED
Rated speed rpm : 300 guide sleeve	control lever
travel mm : 2.04	† posîtion degree : 97.0
	1 4-1
Tolerance mm : + 0.10	tolerance degree : +- 4.0
Tolerance mm : + 0.10  Rated speed rpm : 1009	+ rack travel mm : 14.00
Tolerance mm : + 0.10	+
Tolerance mm : + 0.10  Rated speed rpm : 1009 guide sleeve	rack travel mm : 14.00 Rated speed rpm : 998 Tolerance 1/min : +- 8
Tolerance mm : + 0.10  Rated speed rpm : 1009 guide sleeve travel mm : 6.35 Tolerance mm : + 0.10  Rated speed rpm : 950	rack travel mm : 14.00 Rated speed rpm : 998 Tolerance 1/min : +- 8  rack travel mm : 4.00 Rated speed rpm : 1090
Tolerance mm : + 0.10  Rated speed rpm : 1009 guide sleeve travel mm : 6.35 Tolerance mm : + 0.10  Rated speed rpm : 950 guide sleeve	rack travel mm : 14.00 Rated speed rpm : 998 Tolerance 1/min : +- 8 rack travel mm : 4.00
Tolerance mm : + 0.10  Rated speed rpm : 1009 guide sleeve travel mm : 6.35 Tolerance mm : + 0.10  Rated speed rpm : 950	rack travel mm : 14.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1090 Tolerance 1/min : + 15  rack travel mm : 0.75
Tolerance mm : + 0.10  Rated speed rpm : 1009 guide sleeve travel mm : 6.35 Tolerance mm : + 0.10  Rated speed rpm guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm guide sleeve  travel mm : 410 guide sleeve	rack travel mm : 14.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1090 Tolerance 1/min : + 15
Tolerance mm : + 0.10  Rated speed rpm guide sleeve travel mm : 6.35  Tolerance mm : + 0.10  Rated speed rpm guide sleeve travel mm : 6.00  Tolerance mm : + 0.10  Rated speed rpm guide sleeve travel mm : + 0.10  Rated speed rpm guide sleeve travel mm : 4.66	rack travel mm : 14.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1090 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1200
Tolerance mm : + 0.10  Rated speed rpm guide sleeve travel mm : 6.35  Tolerance mm : + 0.10  Rated speed rpm guide sleeve travel mm : 6.00  Tolerance mm : + 0.10  Rated speed rpm guide sleeve travel mm : + 0.10  Rated speed rpm guide sleeve travel mm : + 0.10  Tolerance mm : + 0.10	rack travel mm : 14.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1090 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : + 0.75
Tolerance mm : + 0.10  Rated speed rpm : 1009 guide sleeve travel mm : 6.35 Tolerance mm : + 0.10  Rated speed rpm : 950 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm guide sleeve travel mm : 4.66 Tolerance mm : + 0.10  Rated speed rpm : 4.66 Tolerance mm : 500 guide sleeve	rack travel mm : 14.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1090 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1200  LOW IDLE  control lever
Rated speed rpm : 1009 guide sleeve travel mm : 6.35 Tolerance mm : + 0.10  Rated speed rpm : 950 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 410 guide sleeve travel mm : 4.66 Tolerance mm : + 0.10  Rated speed rpm : 4.66 Tolerance mm : 500 guide sleeve travel mm : 500 guide sleeve travel mm : 500 guide sleeve travel mm : 6.00	rack travel mm : 14.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1090 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1200  LOW IDLE  control lever position degree : 74.0
Tolerance mm : + 0.10  Rated speed rpm : 1009 guide sleeve travel mm : 6.35 Tolerance mm : + 0.10  Rated speed rpm : 950 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm guide sleeve travel mm : 4.66 Tolerance mm : + 0.10  Rated speed rpm : 4.66 Tolerance mm : 500 guide sleeve	rack travel mm : 14.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1090 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1200  LOW IDLE  control lever
Rated speed rpm : 1009 guide sleeve travel mm : 6.35 Tolerance mm : + 0.10  Rated speed rpm : 950 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 410 guide sleeve travel mm : 4.66 Tolerance mm : + 0.10  Rated speed rpm : 4.66 Tolerance mm : 500 guide sleeve travel mm : 500 guide sleeve travel mm : 500 guide sleeve travel mm : 6.00	rack travel mm : 14.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1090 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1200  LOW IDLE  control lever position degree : 74.0

Rated speed rpm	: 300 : 6.10	†
rack travel mm Tolerance mm	: + 0.10	FUEL DELIVERY CHARACTERISTICS
rack travel mm	: 2.00	Aneroid pressure
Rated speed rpm		+ hPa : 1000
Tolerance 1/min		Rated speed rpm : 950
Rated speed rpm	: 200	+ Del. quantity + <u>cm3</u> /1000 strokes : 242.0
CRT mm min.	: > 9.00	Tolerance cm3/1000 strokes : +- 2.0 Check tolerance
TORQUE CONTROL	<del></del>	
1011406 001111106		+ Tolerance
Rated speed rpm	: 550	+ cm3/1000 strokes : 8.0
rack travel mm	: 15.00	+ Check tolerance
Tolerance mm	: <del>+-</del> 0.05	+ cm3/1000s. : 12.0
Pated cheed nom	: 950	+ Aneroid pressure
Rated speed rpm rack travel mm	15.00	+ hPa : -
Tolerance mm	: + 0.05	Rated speed rpm : 500
rotti arrot im		+ Del. quantity
**************************************		
ANEROID/ALTITUDE		† Tolerance
COMPENSATOR TEST		+ cm3/1000 strokes : ← 1.0
		+ Check tolerance
		+ cm3/1000s. : +- 4.0
SETTING		+ Spreed
0-4-44	. /00	+ Tolerance
Rated speed rpm Pressure hPa	: 400 : 1000	+ cm3/1000 strokes : 8.0
ressure nra rack travel mm		Check tolerance : 12.0
Tolerance mm		T (11137 10003 12.0
rocci di loc ilin		
MEASUREMENT		+ BREAKAWAY +
Pressure hPa	: -	†
Rated speed rpm	: 400	+ Rack travel in mm : 14.00
rack travel mm		Rated speed rpm : 998
Tolerance mm	: +- 0.15	+ Tolerance 1/min : +- 8
Rated speed rpm	: 400	
Pressure hPa	: 250	+ STARTING FUEL DELIVERY
rack travel mm	: 10.80	+
Tolerance mm	: +- 0.15	+ Rated speed rpm : 100 + Del. quantity
Pressure hPa	: 550_	+ cm3/1000 strokes : 235.0
rack travel mm Tolerance mm	: 13.70	+ Tolerance
Tolerance mm	: ← 0.15	cm3/1000 strokes : +- 20.0
		Check tolerance : +- 24.0
START CUT-OUT		
Rated speed rpm Check	: > 220	<u> </u>
speed 1/min	: > 240	LOW IDLE
		Rated speed rpm : 300
		T have speed thin . July

6.10 rack travel mm : : + 0.30Tolerance mm Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 10.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 07.12.94 Edition Test oil : U7.72.94

Combination No. : 0 402 648 955A

#### Injection pump

Pump designation : PE8P120A320LS7859 EP type number : 0 412 628 869

#### Governor

Governer design. : RQ300/950PA1031-9 Governer no. : 0 421 801 675

Cust. part No. : 0240740502

Customer-spec. information Customer : MB-NFZ Motor : 0M442 LA Power KW : 320.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 1.0

Overflow quantity

min. L/h : 75
Tolerance L/h : + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3 :-5-4-1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance :  $\leftarrow$  0.30

Check

tolerance  $^{\circ}NW$  : +- 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

550 Rated speed rpm :

Rack travel in mm: 15.00 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 254.0

Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 1170 guide sleeve
Check tolerance cm3/1000s. : + 4.0	travel mm : 11.50 Tolerance mm : + 0.50
Spreed Tolerance cm3/1000 strokes : 6.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : 9.0	Rated speed rpm : 600 Rack travel in mm : 20.00
Rated speed rpm : 300	Tolerance mm : + 0.80
Rack travel in mm: 5.20	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm : + 0.30  Del. quantity  cm3/1000 strokes : 19.0	Rated speed rpm : 550 Aneroid pressure
Tolerance cm3/1000 strokes : + 3.0	hPa : 1000  Del. quantity
Check tolerance cm3/1000s. : + 6.0	+ cm3/1000 strokes : 254.0 + Tolerance
Spreed Tolerance cm3/1000 strokes : 6.0	+ cm3/1000 strokes : + 1.0 + Check tolerance + cm3/1000s. : + 4.0
Check tolerance cm3/1000s. : 10.0	+ Spreed + Tolerance
	cm3/1000 strokes : 6.0 Check tolerance
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	- cm3/1000s. : 9.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 quide sleeve	cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 98.0
GUIDE SLEEVE TRAVEL Rated speed rpm : 300	cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 98.0 tolerance degree : + 4.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 2.16 Tolerance mm : + 0.10  Rated speed rpm : 1905	cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 98.0 tolerance degree : + 4.0  rack travel mm : 14.00 Rated speed rpm : 998
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 2.16 Tolerance mm : + 0.10	cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 98.0 tolerance degree : + 4.0  rack travel mm : 14.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 2.16 Tolerance mm : + 0.10  Rated speed rpm : 1905 guide sleeve travel mm : 6.36 Tolerance mm : + 0.10  Rated speed rpm : 950	cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 98.0 tolerance degree : + 4.0  rack travel mm : 14.00 Rated speed rpm : 998 Tolerance 1/min : + 8
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 2.16 Tolerance mm : + 0.10  Rated speed rpm : 1905 guide sleeve travel mm : 6.36 Tolerance mm : + 0.10  Rated speed rpm : 950 guide sleeve travel mm : 950 guide sleeve travel mm : 6.00	cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 98.0 tolerance degree : + 4.0  rack travel mm : 14.00 Rated speed rpm : 998  Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1080 Tolerance 1/min : + 15  rack travel mm : 0.75
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 2.16 Tolerance mm : + 0.10  Rated speed rpm : 1905 guide sleeve travel mm : 6.36 Tolerance mm : + 0.10  Rated speed rpm : 950 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 399	cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 98.0 tolerance degree : + 4.0  rack travel mm : 14.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1080 Tolerance 1/min : + 15  rack travel mm : 0.75
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 2.16 Tolerance mm : + 0.10  Rated speed rpm : 1905 guide sleeve travel mm : 6.36 Tolerance mm : + 0.10  Rated speed rpm : 950 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 399 guide sleeve travel mm : 399 guide sleeve travel mm : 4.48	cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 98.0 tolerance degree : + 4.0  rack travel mm : 14.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1080 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : + 0.75
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 2.16 Tolerance mm : + 0.10  Rated speed rpm : 1905 guide sleeve travel mm : 6.36 Tolerance mm : + 0.10  Rated speed rpm : 950 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 399 guide sleeve travel mm : 399 guide sleeve travel mm : 4.48 Tolerance mm : + 0.10	cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 98.0 tolerance degree : + 4.0  rack travel mm : 14.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1080 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1200
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 2.16 Tolerance mm : + 0.10  Rated speed rpm : 1905 guide sleeve travel mm : 6.36 Tolerance mm : + 0.10  Rated speed rpm : 950 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 399 guide sleeve travel mm : 399 guide sleeve travel mm : 4.48	cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 98.0 tolerance degree : + 4.0  rack travel mm : 14.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1080 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1200

Testing:	
Rated speed rpm rack travel mm	: 300 : 5.20
Tolerance mm	: 5.20 : ← 0.10
rack travel mm	: 2.00
Rated speed rpm Tolerance 1/min	
Rated speed rpm	: 200
CRT mm min.	: > 7.50
TORQUE CONTROL	
Rated speed rpm	
rack travel mm Tolerance mm	: 15.00 : +- 0.05
Rated speed rpm	
rack travel mm Tolerance mm	: 15.00 : +- 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
COMPENSATOR TEST SETTING Rated speed rpm	
COMPENSATOR TEST  SETTING  Rated speed rpm Pressure hPa rack travel mm	: 1000 : 15.00
COMPENSATOR TEST  SETTING  Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1000
COMPENSATOR TEST  SETTING  Rated speed rpm Pressure hPa rack travel mm Tolerance mm  MEASUREMENT	: 1000 : 15.00
COMPENSATOR TEST  SETTING  Rated speed rpm Pressure hPa rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm	: 1000 : 15.00 : +- 0.05 : - : 400
COMPENSATOR TEST  SETTING  Rated speed rpm Pressure hPa rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa	: 1000 : 15.00 : +- 0.05
COMPENSATOR TEST  SETTING  Rated speed rpm Pressure hPa rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm	: 1000 : 15.00 : +- 0.05 : - : 400 : 9.10
COMPENSATOR TEST  SETTING  Rated speed rpm Pressure hPa rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 1000 : 15.00 : +- 0.05 : 0.05 : 400 : 9.10 : +- 0.15 : 400 : 250
COMPENSATOR TEST  SETTING  Rated speed rpm Pressure hPa rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm Pressure hPa Rated speed rpm	: 1000 : 15.00 : +- 0.05 : 0.05 : 400 : 9.10 : +- 0.15 : 400 : 250 : 11.00
COMPENSATOR TEST  SETTING  Rated speed rpm Pressure hPa rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm  Pressure hPa rack travel mm  Tolerance mm	: 1000 : 15.00 : + 0.05 : + 0.05 : 400 : 9.10 : + 0.15 : 400 : 250 : 11.00 : + 0.15
COMPENSATOR TEST  SETTING  Rated speed rpm Pressure hPa rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm  Pressure hPa rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm	: 1000 : 15.00 : + 0.05 : + 0.05 : 400 : 9.10 : + 0.15 : 400 : 250 : 11.00 : + 0.15 : 550 : 13.60
COMPENSATOR TEST  SETTING  Rated speed rpm Pressure hPa rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm Pressure hPa rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm	: 1000 : 15.00 : + 0.05 : + 0.05 : 400 : 9.10 : + 0.15 : 400 : 250 : 11.00 : + 0.15 : 550
COMPENSATOR TEST  SETTING  Rated speed rpm Pressure hPa rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm  Pressure hPa rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm	: 1000 : 15.00 : + 0.05 : + 0.05 : 400 : 9.10 : + 0.15 : 400 : 250 : 11.00 : + 0.15 : 550 : 13.60
COMPENSATOR TEST  SETTING  Rated speed rpm Pressure hPa rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm  Pressure hPa rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm	: 1000 : 15.00 : + 0.05 : + 0.05 : 400 : 9.10 : + 0.15 : 400 : 250 : 11.00 : + 0.15 : 550 : 13.60 : + 0.15

FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	
hPa	: 1000
Rated speed rpm	: 950
Del. quantity	
cm3/1000 strokes	: 241.0
Tolerance	
cm3/1000 strokes	: <del>+-</del> 3.0
Check tolerance	
cm3/1000s.	: <del></del> 6.0
Spreed	
Tolerance	0.0
cm3/1000 strokes	: 8.0
Check tolerance	. 42.0
cm3/1000s.	: 12.0
Aneroid pressure	
hPa	: -
Rated speed rpm	500
Del. quantity	. 300
cm3/1000 strokes	: 135.0
Tolerance	
cm3/1000 strokes	: + 1.0
Check tolerance	-
cm3/1000s.	: +- 4.0
Spreed	
Tolerance	
cm3/1000 strokes	: 8.0
Check tolerance	
cm3/1000s.	: 12.0
BREAKAWAY	
Rack travel in mm	: 14.00
Rated speed rpm	: 998
Tolerance 1/min	
TOCOL GIVE TAIRTY	
	*
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100
Del. quantity	. 100
cm3/1000 strokes	: 270.0
Tolerance	2.3.0
cm3/1000 strokes	: +- 10.0
Check tolerance	1212
cm3/1000s.	: +- 14.0
LOW IDLE	
Dawad amaad	. 700
Rated speed rpm	: 300

rack travel mm	:	5.20
Tolerance mm	: +-	0.30
Del. quantity		10.0
cm3/1000 strokes Tolerance	:	19.0
cm3/1000 strokes	• 4	3.0
Check tolerance	• •	J.0
cm3/1000s.	: +-	6.0
Spreed		
Tolerance		
cm3/1000 strokes	:	6.0
Check tolerance		45.5
cm3/1000s.	:	10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 07.07.95 Test oil : ISO 4113

Combination No. : 0 402 648 980

Injection pump

Pump designation : PE8P120A320LS7839

: -10

EP type number : 0 412 628 855

Governor

Governer design. : RQV300...950PA797

: -39

Governer no. : 0 421 814 115

Cust. part No. : 0250749102

Customer-spec. information
Customer : MB-NFZ
Motor : 0M442 LA
Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 14.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315

: +- 0.30

Check

tolerance "NW : + 0.75

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Tolerance

Rated speed rpm : 550

Rack travel in mm : 15.20 Tolerance mm : + 0.05

Tolerance mm : + U.US

Del. quantity cm3/1000 strokes : 289.0

		+ Tolerance mm : + 0.25
Tolerance cm3/1000 strokes	: + 1.0	Poted aread man 1003
CHO/ TOOU Strokes	: +- 1.0	+ Rated speed rpm : 1092 + guide sleeve
Check tolerance		travel mm : 10.00
cm3/1000s.	: +- 4.0	+ Tolerance mm : + 0.25
		+
Spreed		+ Rated speed rpm : 1190
Tolerance		+ guide sleeve
cm3/1000 strokes	: 6.0	+ travel mm : 11.50 + Tolerance mm : + 0.50
Check tolerance		T rocerance init
cm3/1000s.	: 9.0	
		+ GUIDE SLEEVE POSITION
Rated speed rpm	: 300	†
Dool Annual du ma		+ Rated speed rpm : 1030
Rack travel in m		+ Rack travel in mm: 14.20
Tolerance mm Del. quantity	: - 0.38	+ Tolerance mm : + 1.30
cm3/1000 strokes	: 19.0	Total disce (iii) . 1 - 1.50
Tolerance	. 17.0	
cm3/1000 strokes	: +- 3.0	+ FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance		+
cm3/1000s.	: <del>←</del> 6.0	+ Rated speed rpm : 550
Spreed		+ Aneroid pressure
Tolerance		+ hPa : 1200
cm3/1000 strokes	: 6.0	Del. quantity
Check tolerance cm3/1000s.	: 10.0	+ cm3/1000 strokes : 289.0 + Tolerance
CHO/ TOOOS.	: 10.0	+ cm3/1000 strokes : +- 1.0
		- COLOT CLEAR STRUKES * - 1 11
(B) SETTING OF IN	UECTION PUMP	+ Cms/1000 strokes : + 1.0 + Check tolerance + cm3/1000s. : + 4.0
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	+ Check tolerance + cm3/1000s. : + 4.0 + Spreed
	JECTION PUMP	+ Check tolerance + cm3/1000s. : + 4.0 + Spreed + Tolerance
WITH GOVERNOR		- Check tolerance - cm3/1000s. : + 4.0 - Spreed - Tolerance - cm3/1000 strokes : 6.0
		Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
WITH GOVERNOR  GUIDE SLEEVE TRAV	EL	- Check tolerance - cm3/1000s. : + 4.0 - Spreed - Tolerance - cm3/1000 strokes : 6.0
WITH GOVERNOR		Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
GUIDE SLEEVE TRAV	EL	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve	EL: 300	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.29 : + 0.20	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED
GUIDE SLEEVE TRAV  Rated speed rpm guide steeve travel mm Tolerance mm  Rated speed rpm	EL: 300:: 1.29	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever
GUIDE SLEEVE TRAV  Rated speed rpm guide steeve travel mm Tolerance mm  Rated speed rpm guide steeve	: 300 : 1.29 : + 0.20 : 1010	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0
GUIDE SLEEVE TRAV  Rated speed rpm guide steeve travel mm Tolerance mm  Rated speed rpm	: 300 : 1.29 : + 0.20	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever
GUIDE SLEEVE TRAV  Rated speed rpm guide steeve travel mm Tolerance mm  Rated speed rpm guide steeve travel mm	: 300 : 1.29 : + 0.20 : 1010 : 8.56 : + 0.15	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 14.20
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm Rated speed rpm	: 300 : 1.29 : + 0.20 : 1010 : 8.56	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 14.20 Rated speed rpm : 995
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.29 : + 0.20 : 1010 : 8.56 : + 0.15 : 567	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 14.20
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.29 : + 0.20 : 1010 : 8.56 : + 0.15 : 567 : 4.66	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 14.20 Rated speed rpm : 995 Tolerance 1/min : + 5
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.29 : + 0.20 : 1010 : 8.56 : + 0.15 : 567	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 14.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.29 : + 0.20 : 1010 : 8.56 : + 0.15 : 567 : 4.66 : + 0.25	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 14.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1095
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm Rated speed rpm	: 300 : 1.29 : + 0.20 : 1010 : 8.56 : + 0.15 : 567 : 4.66	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 14.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.29 : + 0.20 : 1010 : 8.56 : + 0.15 : 567 : 4.66 : + 0.25 : 617	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 14.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1095 Tolerance 1/min : + 15
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.29 : + 0.20 : 1010 : 8.56 : + 0.15 : 567 : 4.66 : + 0.25	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 14.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1095
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.29 : + 0.20 : 1010 : 8.56 : + 0.15 : 567 : 4.66 : + 0.25 : 617 : 5.23	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 14.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1095 Tolerance 1/min : + 15  rack travel mm : 0.75
GUIDE SLEEVE TRAV  Rated speed rpm guide steeve travel mm Tolerance mm  Rated speed rpm guide steeve travel mm Tolerance mm  Rated speed rpm guide steeve travel mm Tolerance mm  Rated speed rpm guide steeve travel mm Tolerance mm  Rated speed rpm guide steeve travel mm Tolerance mm  Rated speed rpm guide steeve travel mm Tolerance mm	: 300 : 1.29 : + 0.20 : 1010 : 8.56 : + 0.15 : 567 : 4.66 : + 0.25 : 617 : 5.23	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 14.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1095 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : + 0.75
GUIDE SLEEVE TRAV  Rated speed rpm guide steeve travel mm Tolerance mm  Rated speed rpm guide steeve travel mm Tolerance mm  Rated speed rpm guide steeve travel mm Tolerance mm  Rated speed rpm guide steeve travel mm Tolerance mm  Rated speed rpm guide steeve travel mm Tolerance mm	EL : 300 : 1.29 : + 0.20 : 1010 : 8.56 : + 0.15 : 567 : 4.66 : + 0.25 : 617 : 5.23 : + 0.25	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 14.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1095 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : + 0.75

control lever	: 82.0
position degree tolerance degree	: +- 4.0
Testing:	
Rated speed rpm	: 300
rack travel mm	: 5.20
Tolerance mm	: <b>←</b> 0.10
Rated speed rpm	: 200
CRT mm min.	: > 8.50
Rated speed rpm	: 360
TORQUE CONTROL	
Rated speed rpm	: 550
rack travel mm	: 15.20
Tolerance mm	: + 0.05
Rated speed rpm	: 950
rack travel mm	: 15.20
Tolerance mm	: <del>+</del> 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm	: 400
Pressure hPa	: 400
rack travel mm Tolerance mm	: 15.20 : + 0.05
ioterative min	. 1- 0.05
MEASUREMENT	
Pressure hPa	: -
Rated speed rpm rack travel mm	: 400 : 8.25
	: + 0.15
Tolerance mm	
Tolerance mm Rated speed rpm	: 400
Rated speed rpm	
	: 300 : 9.95
Rated speed rpm Pressure hPa	: 300
Rated speed rpm Pressure hPa rack travel min	: 300 : 9.95 : + 0.20
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 300 : 9.95 : + 0.20

Rated speed rpm	: < 220
Check speed 1/min	: < 240
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	4200
hPa Rated speed rpm	: 1200 : 950
Del. quantity	
cm3/1000 strokes	: 271.0
Tolerance cm3/1000 strokes	: <del>+</del> 3.0
Check tolerance	
cm3/1000s.	: +- 6.0
Aneroid pressure	
hPa	: - . F00
Rated speed rpm Del. quantity	: 500
cm3/1000 strokes	: 136.0
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance	. + 1.0
cm3/1000s.	: <del>←</del> 4.0
Spreed Tolerance	
cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
CIID/ (DUDS.	: 12.0
BREAKAWAY	
Rack travel in mm	: 14.20
Rated speed rpm	: 995
Tolerance 1/min	: +- 5
STARTING FUEL DELI	EVERY
Rated speed rpm	: 100
Del. quantity cm3/1000 strokes	: 255.0
Tolerance	. <i>LJJ</i> .U
cm3/1000 strokes	: <del>+-</del> 20.0
Check tolerance cm3/1000s.	: +- 24.0
LOW IDLE	
Rated speed rpm	: 300
rack travel mm	: 5.20

Tolerance mm Del. quantity	: +-	0.30
cm3/1000 strokes	:	19.0
Tolerance cm3/1000 strokes	: +-	3.0
Check tolerance cm3/1000s.	: +-	6.0
Spreed Tolerance		
cm3/1000 strokes	:	6.0
Check tolerance cm3/1000s.	:	10.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 07.07.95 Edition Test oil : ISO 4113

Combination No. : 0 402 648 981

Injection pump

Pump designation : PE8P120A320LS7839

: -10

EP type number : 0 412 628 855

Governor

Governer design. : RQ300/950PA971-10 Governer no. : 0 421 801 754

Cust. part No. : 0250749002

Customer-spec. information Customer : MB-NFZ Motor : 0M442 LA Power KW : 370.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

1.5 Inlet press. bar : Tolerance bar

Tolerance l/h: +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : ← 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 5.05 : + 0.05 Tolerance mm

test only : +- 0.10

Rack travel in mm: 14.50 Tolerance mm :  $\leftarrow$  0.50

Firing order : 8-7-2-6-3 :-5-4-1

Phasing : 0-45-90-135-180

: -225-270-315

: + - 0.30

Tolerance Check

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.75

Start of delivery mark

Barrel no. : 8

#### BASIC SETTING

Rated speed rpm : 550

Rack travel in mm: 15.20 Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 289.0

<b>-</b>	+	Tolerance mm : +- 0.10
Tolerance cm3/1000 strokes	: + 1.0	Rated speed rpm : 1190 guide sleeve
Check tolerance cm3/1000s.	: + 4.0	travel mm : 11.50 Tolerance mm : + 0.50
Spreed Tolerance		GUIDE SLEEVE POSITION
cm3/1000 strokes	: 6.0	Rated speed rpm : 600
Check tolerance cm3/1000s.	: 9.0	Rack travel in mm : 20.00 Tolerance mm : +- 0.80
Rated speed rpm	: 300	
Rack travel in mr Tolerance mm		FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity	: 19.0	Rated speed rpm : 550 Aneroid pressure hPa : 1200
Tolerance cm3/1000 strokes Check tolerance	: + 3.0	hPa : 1200 Del. quantity cm3/1000 strokes : 289.0
cm3/1000s.	: + 6.0	Tolerance cm3/1000 strokes : + 1.0
Tolerance cm3/1000 strokes	: 6.0	Check tolerance cm3/1000s. : +- 4.0
Check tolerance cm3/1000s.	: 10.0	Spreed Tolerance
(B) SETTING OF IN	NJECTION PUMP	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAV		RATED SPEED
Rated speed rpm	: 300	control lever
guide sleeve travel mm	: 2.25	position degree : 102.0 tolerance degree : +- 4.0
Tolerance mm		
TOCCI GIACE THAT	: + 0.10 +	
Rated speed rpm	: ← 0.10 : 1005	rack travel mm : 14.20 Rated speed rpm : 998 Tolerance 1/min : + 5
Rated speed rpm guide sleeve travel mm	: 1005 : 6.33	rack travel mm : 14.20 Rated speed rpm : 998 Tolerance 1/min : + 5
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1005 : 6.33 : + 0.10	rack travel mm : 14.20 Rated speed rpm : 998 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1105
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1005 : 6.33 : +- 0.10 : 950	rack travel mm : 14.20 Rated speed rpm : 998 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1105 Tolerance 1/min : + 15
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 1005 : 6.33 : +- 0.10 : 950 : 6.00	rack travel mm : 14.20 Rated speed rpm : 998 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1105 Tolerance 1/min : + 15  rack travel mm : 0.75
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1005 : 6.33 : + 0.10 : 950 : 6.00 : + 0.10	rack travel mm : 14.20 Rated speed rpm : 998 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1105 Tolerance 1/min : + 15
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1005 : 6.33 : + 0.10 : 950 : 6.00 : + 0.10 : 450	rack travel mm : 14.20 Rated speed rpm : 998 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1105 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1250
Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm	: 1005 : 6.33 : + 0.10 : 950 : 6.00 : + 0.10 : 450 : 4.72	rack travel mm : 14.20 Rated speed rpm : 998 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1105 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : + 0.75
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	: 1005 : 6.33 : + 0.10 : 950 : 6.00 : + 0.10 : 450 : 4.72 : + 0.10	rack travel mm : 14.20 Rated speed rpm : 998 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1105 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1250  LOW IDLE
Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm	: 1005 : 6.33 : + 0.10 : 950 : 6.00 : + 0.10 : 450 : 4.72	rack travel mm : 14.20 Rated speed rpm : 998 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1105 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1250

# Testing:

Rated speed rpm : 300 rack travel mm : 5.20 Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 425
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 7.20

#### TORQUE CONTROL

Rated speed rpm : 550 rack travel mm : 15.20 Tolerance mm : + 0.05

Rated speed rpm : 950 rack travel mm : 15.20 Tolerance mm : + 0.10

# ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 15.20
Tolerance mm : +- 0.05

#### **MEASUREMENT**

Pressure hPa : Rated speed rpm : 400
rack travel mm : 8.25
Tolerance mm : + 0.15

Rated speed rpm : 400

Pressure hPa : 300 rack travel mm : 9.95 Tolerance mm : + 0.20

Pressure hPa : 500 rack travel mm : 11.65 Tolerance mm : + 0.20

#### START CUT-OUT

Rated speed rpm : < 220

Check speed 1/min : < 240

# FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1200 Rated speed rpm : 950

Del. quantity

cm3/1000 strokes : 271.0

Tolerance

cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000s. : + 6.0

Aneroid pressure

Rated speed rpm : 500

Del. quantity cm3/1000 strokes : 136.0

Tolerance cm3/1000 strokes : +- 1.0 Check tolerance

cm3/1000s. Spreed Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

4.0

#### **BREAKAWAY**

Rack travel in mm: 14.20 Rated speed rpm: 998 Tolerance 1/min: + 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 255.0
Tolerance
cm3/1000 strokes : +- 20.0
Check tolerance

cm3/1000s. : +- 24.0

# LOW IDLE

Rated speed rpm : 300 rack travel mm : 5.20 Tolerance mm : + 0.30

Del. quantity			
cm3/1000 strokes	:	19.0	
Tolerance			
cm3/1000 strokes	: +-	3.0	
Check tolerance			
cm3/1000S.	: +-	6.0	
Spreed			
Tolerance			
cm3/1000 strokes	:	6.0	
Check tolerance			
cm3/1000s.	:	10.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 07.07.95 Test oil : ISO 4113

Combination No. : 0 402 648 983

Injection pump

Pump designation: PE8P12DA32OLS7839

: -10

EP type number : 0 412 628 855

Governor

Governer design. : RQ300/950PA993-9 Governer no. : 0 421 801 755

Cust. part No. : 0250749202

Customer-spec. information
Customer : MB-NFZ
Motor : 0M442 LA
Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 14.50Tolerance mm :  $\leftarrow 0.50$ 

Firing order : 8-7-2-6-3 :-5-4-1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance :  $\leftarrow$  0.30

Check

tolerance °NW :  $\leftarrow$  0.75

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.20 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 289.0

		+ Tolerance mm : +- 0.10
Tolerance cm3/1000 strokes	: +- 1.0	+ Rated speed rpm : 1170 + guide sleeve
Check tolerance cm3/1000s.	: + 4.0	travel mm : 11.50 Tolerance mm : + 0.50
Spreed Tolerance cm3/1000 strokes	: 6.0	GUIDE SLEEVE POSITION
Check tolerance	: 9.0	+ Rated speed rpm : 600 + Rack travel in mm : 20.00
Rated speed rpm		Tolerance mm : + 0.80
Rack travel in mm		FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm		T FOLL LOAD DELIVERY AT FOLL LOAD STOP
Del. quantity		Rated speed rpm : 550
cm3/1000 strokes	: 19.0	+ Aneroid pressure
Tolerance	. 7.0	+ hPa : 1200
cm3/1000 strokes Check tolerance	: <b>←</b> 3.0	+ Del. quantity + cm3/1000 strokes : 289.0
cm3/1000s.	: <del>←</del> 6.0	+ Tolerance
Spreed	• • • • • • • • • • • • • • • • • • • •	+ cm3/1000 strokes : + 1.0
Tolerance		† Check tolerance
cm3/1000 strokes	: 6.0	+ cm3/1000s. : + 4.0
Check tolerance cm3/1000s.	: 10.0	+ Spreed + Tolerance
CIID/ 10003.	: 10.0	+ cm3/1000 strokes : 6.0
		+ Check tolerance
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	+ cm3/1000s. : 9.0
		+ RATED SPEED
GUIDE SLEEVE TRAV	EL	
Rated speed rpm	: 300	† control lever
guide sleeve	2.44	+ position degree : 98.0
travel mm	: 2.14 : + 0.10	tolerance degree : +- 4.0
Tolerance mm	. +- 0.10	Track travel mm : 14.20
Rated speed rpm	: 1005	+ Rated speed rpm : 998
guide sleeve		† Tolerance 1/min : + 5
travel mm	: 6.34	t made toward on 1 / 00
Tolerance mm	: +- 0.10	+ rack travel mm : 4.00 + Rated speed rpm : 1085
Rated speed rpm guide sleeve	: 950	Tolerance 1/min : +- 15
travel mm	: 6.00	rack travel mm : 0.75
Tolerance mm	: <b>←</b> 0.10	Tolerance mm : +- 0.75 Rated speed rpm : 1250
Rated speed rpm guide sleeve	: 399	‡ <del></del>
travel mm	: 4.46	+ LOW IDLE
Tolerance mm	: +- 0.10	+
Rated speed rpm	: 500	+ control lever
guide sleeve	. 500	position degree : 71.0
travel mm	: 6.00	tolerance degree : +- 4.0

# Testing:

300 Rated speed rpm 3.50 rack travel mm Tolerance mm 0.10

2.00 rack travel mm Rated speed rpm 340 Tolerance 1/min 20

Rated speed rom 200

CRT mm min. : > 5.70

# TORQUE CONTROL

550 Rated speed rpm 15.20 rack travel mm Tolerance mm : +- 0.05

950 Rated speed rpm 15.20 rack travel mm Tolerance mm : + 0.10

# ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

400 Rated speed rpm 1200 Pressure hPa 15.20 rack travel mm Tolerance mm : + 0.05

## **MEASUREMENT**

Pressure hPa 400 Rated speed rpm 8.25 rack travel mm 0.15 Tolerance mm

400 Rated speed rpm :

300 Pressure hPa 9.95 rack travel mm Tolerance mm : **+** 0.20

Pressure hPa 500 rack travel mm 11.65 Tolerance mm : +- 0.20

#### START CUT-OUT

Rated speed rpm : < 220 Check speed 1/min : < 240

# FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1200 950 Rated speed rpm Del. quantity

cm3/1000 strokes : 271.0

Tolerance

cm3/1000 strokes : +-3.0

Check tolerance

cm3/1000s. 6.0

Aneroid pressure

500 Rated speed rpm Del. quantity

cm3/1000 strokes : 136.0

Tolerance

cm3/1000 strokes 1.0 : +-Check tolerance 4.0

cm3/1000s. Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

#### BREAKAWAY

Rack travel in mm : 14.20 Rated speed rpm : 998 Tolerance 1/min

#### STARTING FUEL DELIVERY

Rated speed rpm 100

Del. quantity cm3/1000 strokes : 255.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  20.0

Check tolerance

cm3/1000s. : +- 24.0

#### LOW IDLE

300 Rated speed rom rack travel mm : 5.20 : +- 0.30 Tolerance mm

Del. quantity		
cm3/1000 strokes	:	19.0
Tolerance		
cm3/1000 strokes	: +-	3.0
Check tolerance		
cm3/1000s.	: +	6.0
Spreed		
Tolerance		
cm3/1000 strokes	:	6.0
Check tolerance	-	
cm3/1000s.	•	10.0
	•	

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 07.07.95 Test oil : ISO 4113

Combination No. : 0 402 648 984

# Injection pump

Pump designation : PE8P120A320LS7839

: -10

EP type number : 0 412 628 855

#### Governor

Governer design. : RQ300/1050PA972-12 Governer no. : 0 421 801 759

Cust. part No. : 0250749302

Customer-spec. information
Customer : MB-NFZ
Motor : 0M442 LA
Power KW : 370.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Tolerance l/h:  $\leftarrow$  10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 14.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3 :-5-4-1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : + 0.30

Check

tolerance °NW : +- 0.75

Start of delivery mark

Barrel no. : 8

# BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.20 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 289.0

	<del>+</del> +	Tolerance mm : +- 0.10
Tolerance cm3/1000 strokes	: + 1.0	Rated speed rpm : 1280 guide sleeve
Check tolerance cm3/1000s.	: + 4.0	travel mm : 11.50 Tolerance mm : + 0.50
Spreed	+	
Tolerance cm3/1000 strokes	: 6.0	GUIDE SLEEVE POSITION  Rated speed rpm : 600
Check tolerance		rated speed (pill . Our
cm3/1000s.	: 9.0	Rack travel in mm : 20.00 Tolerance mm : +- 0.80
Rated speed rpm	: 300	roterance nan : +- U.OU
Rack travel in mn	n: 5.20	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm	: + 0.30	
Del. quantity cm3/1000 strokes	: 19.0	Rated speed rpm : 550 Aneroid pressure
Tolerance	+	hPa : 1200
cm3/1000 strokes	: <b>←</b> 3.0 +	Del. quantity
Check tolerance	+	cm3/1000 strokes : 289.0
cm3/1000s.	: +- 6.0	Tolerance cm3/1000 strokes : +- 1.0
Spreed Tolerance	I	Check tolerance
cm3/1000 strokes	: 6.0	cm3/1000s. : +- 4.0
Check tolerance	+	Spreed
cm3/1000s.	: 10.0 +	Tolerance
	†	cm3/1000 strokes : 6.0 Check tolerance
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	cm3/1000S. : 9.0
		RATED SPEED
GUIDE SLEEVE TRAV	EL +	
Rated speed rpm	: 300	control lever
guide sleeve	1.00	position degree : 98.0
travel mm Tolerance mm	: 1.94 : + 0.10	tolerance degree : +- 4.0
TOTE GIVE IN	7	rack travel mm : 14.20
Rated speed rpm	: 1104	Rated speed rpm : 1098
guide sleeve	+	Tolerance 1/min : +- 5
travel mm	: 6.34	
Tolerance mm	: + 0.10	rack travel mm : 4.00 Rated speed rpm : 1195
Rated speed rpm	: 1050	Tolerance 1/min : +- 15
guide sleeve		
travel mm	+	
Talassas mm	: 6.00	rack travel mm : 0.75
Tolerance mm	: 6.00 : + 0.10	Tolerance mm : + 0.75
	: ← 0.10 +	
Rated speed rpm		Tolerance mm : + 0.75
	: ← 0.10 +	Tolerance mm : + 0.75
Rated speed rpm guide sleeve	: ← 0.10 : 414	Tolerance mm : + 0.75 Rated speed rpm : 1350
Rated speed rpm guide sleeve travel mm Tolerance mm	: + 0.10 : 414 : 4.51 : + 0.10	Tolerance mm : + 0.75 Rated speed rpm : 1350  LOW IDLE
Rated speed rpm guide sleeve travel mm Tolerance mm	: ← 0.10 : 414 : 4.51	Tolerance mm : + 0.75 Rated speed rpm : 1350  LOW IDLE  control lever
Rated speed rpm guide sleeve travel mm Tolerance mm	: + 0.10 : 414 : 4.51 : + 0.10	Tolerance mm : + 0.75 Rated speed rpm : 1350  LOW IDLE

Testing:

Rated speed rpm : 300 rack travel mm : 5.20 Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 405
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. :> 8.20

## TORQUE CONTROL

Rated speed rpm : 550 rack travel mm : 15.20 Tolerance mm : + 0.05

Rated speed rpm : 1050 rack travel mm : 15.20 Tolerance mm : + 0.10

# ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 15.20
Tolerance mm : + 0.05

#### **MEASUREMENT**

Pressure hPa : Rated speed rpm : 400
rack travel mm : 8.25
Tolerance mm : + 0.15

Rated speed rpm : 400

Pressure hPa : 300 rack travel mm : 9.95 Tolerance mm : + 0.20

Pressure hPa : 500 rack travel mm : 11.65 Tolerance mm : + 0.20

#### START CUT-OUT

Rated speed rpm : < 220

Check speed 1/min ; < 240

# FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1200 Rated speed rpm : 1050

Del. quantity

cm3/1000 strokes : 269.0

Tolerance

cm3/1000 strokes : +- 3.0 Check tolerance

cm3/1000s. :  $\leftarrow$  6.0

Aneroid pressure

hPa : -Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 136.0

Tolerance

cm3/1000 strokes : +- 1.0 Check tolerance

cm3/1000s. : + 4.0
Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

# BREAKAWAY

Rack travel in mm : 14.20 Rated speed rpm : 1098 Tolerance 1/min : +- 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 255.0

Tolerance

cm3/1000 strokes : + 20.0

Check tolerance

cm3/1000s. : +- 24.0

# LOW IDLE

Rated speed rpm : 300 rack travel mm : 5.20 Tolerance mm : +-0.30

Del. quantity cm3/1000 strokes	:	19.0
Tolerance cm3/1000 strokes Check tolerance	: +-	3.0
cm3/1000s.	: +-	6.0
Spreed Tolerance		
cm3/1000 strokes	:	6.0
Check tolerance cm3/1000s.	:	10.0

#### Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.07.95 Test oil : ISO 4113

Combination No. : 0 402 648 985

Injection pump

Pump designation : PE8P120A320LS7839

: -10

EP type number : 0 412 628 855

Governor

Governer design. : RQ300/1050PA993-10

Governer no. : 0 421 801 760

Cust. part No. : 0250749502

Customer-spec. information
Customer : MB-NFZ
Motor : 0M442 LA
Power KW : 370.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h:  $\leftarrow$  10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 14.50 Tolerance mm : +- 0.50

Firing order : 8-7-2-6-3 :-5-4-1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : ← 0.30

Check

tolerance °NW :  $\leftarrow$  0.75

Start of delivery mark

Barrel no. : 8

## BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.20 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 289.0

		+ Tolerance mm : +- 0.10
Tolerance cm3/1000 strokes	: + 1.0	Rated speed rpm : 1280
		guide sleeve
Check tolerance		travel mm : 11.50
cm3/1000s.	: +- 4.0	Tolerance mm : +- 0.50
Spreed		
Tolerance		GUIDE SLEEVE POSITION
cm3/1000 strokes	: 6.0	† Rated speed rpm : 600
Check tolerance		+ Kateu speed rpm : 000
cm3/1000s.	: 9.0	Rack travel in mm: 20.00
	700	Tolerance mm : + 0.80
Rated speed rpm	: 300	<u> </u>
Rack travel in m	n: 5.20	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm	: +- 0.30	+
Del. quantity	40.0	Rated speed rpm : 550
cm3/1000 strokes Tolerance	: 19.0	+ Aneroid pressure + hPa : 1200
cm3/1000 strokes	: +- 3.0	Del. quantity
Check tolerance		cm3/1000 strokes : 289.0
cm3/1000s.	: <b>←</b> 6.0	Tolerance
Spreed Tolerance	-	+ cm3/1000 strokes : +- 1.0 - Check tolerance
cm3/1000 strokes	: 6.0	+ cm3/1000s. : +- 4.0
Check tolerance	-	Spreed
cm3/1000s.	: 10.0	Tolerance
	-	cm3/1000 strokes : 6.0
(B) SETTING OF IN	LIECTION PHMP -	Check tolerance : 9.0
WITH GOVERNOR	-	
	<del>-</del>	DATES OPEN
GUIDE SLEEVE TRAV	/EL -	RATED SPEED
Rated speed rpm	: 300	control lever
guide sleeve	-	position degree : 98.0
travel mm	: 1.85	tolerance degree : + 4.0
Tolerance mm	: + 0.10	rack travel mm : 14.20
Rated speed rpm	: 1104	Rated speed rpm : 1098
guide sleeve		Tolerance 1/min : +- 5
travel mm	: 6.34 : + 0.10	t - rack travel mm : 4.00
Tolerance mm	: 0.10	Rated speed rpm : 1195
Rated speed rpm	: 1050 -	Tolerance 1/min : + 15
guide sleeve		<u> </u>
travel mm	: 6.00 - : +- 0.10 -	rack travel mm : 0.75 Folerance mm : + 0.75
Tolerance mm	: +- 0.10	- Tolerance mm : +- 0.75 - Rated speed rpm : 1350
Rated speed rpm	: 271	
guide sleeve	-	
travel mm	: 1.33	LOW IDLE
Tolerance mm	: +- 0.10	
Rated speed rpm	: 510	control lever
guide sleeve	-	position degree : 69.0
travel mm	: 6.00	tolerance degree : +- 4.0

# Testing:

300 Rated speed rpm rack travel mm 3.50 Tolerance mm : + 0.10

2.00 rack travel mm Rated speed rpm 350 Tolerance 1/min 20

Rated speed rom 200

CRT mm min. : > 5.50

#### TORQUE CONTROL

550 Rated speed rpm 15.20 rack travel mm Tolerance mm : +- 0.05

Rated speed rpm 1050 15.20 rack travel mm Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

400 Rated speed rpm 1200 Pressure hPa 15.20 rack travel mm : +- 0.05 Tolerance mm

# **MEASUREMENT**

Pressure hPa 400 Rated speed rpm rack travel mm 8.25 0.15 Tolerance mm

400 Rated speed rpm :

300 Pressure hPa 9.95 rack travel mm Tolerance mm : **←** 0.20

500 Pressure hPa rack travel mm 11.65 Tolerance mm : + 0.20

#### START CUT-OUT

Rated speed rpm : < 220 Check

speed 1/min : < 240

# FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1200 Rated speed rpm 1050

Del. quantity

cm3/1000 strokes : 269.0

Tolerance

cm3/1000 strokes 3.0 Check tolerance cm3/1000s. 6.0

Aneroid pressure

500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 136.0 Tolerance

1.0

cm3/1000 strokes

Check tolerance cm3/1000s. 4.0

Spreed Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

#### BREAKAWAY

Rack travel in mm: 14.20 Rated speed rpm : 1098 Tolerance 1/min

#### STARTING FUEL DELIVERY

100 Rated speed rpm

Del. quantity cm3/1000 strokes : 255.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  20.0

Check tolerance

cm3/1000s. : +- 24.0

#### LOW IDLE

300 Rated speed rpm rack travel mm 5.20 0.30 Tolerance mm

Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 10.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 07.07.95 Test oil : ISO 4113

Combination No. : 0 402 648 986

# Injection pump

Pump designation : PE8P120A320LS7839

: -10

EP type number : 0 412 628 855

Governor

Governer design. : RQV300...1050PA797

: -40

Governer no. : 0 421 814 118

Cust. part No. : 0250749402

Customer—spec. information
Customer : MB-NFZ
Motor : 0M442 LA
Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 105 Tolerance l/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.05 Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 14.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3 :-5-4-1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : + 0.30

Check

tolerance "NW : + 0.75

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

\_\_\_\_\_

Rack travel in mm : 15.20 Tolerance mm : + 0.05

Del. quantity	🕂 guide sleeve
cm3/1000 strokes : 289.0	
CMS/ IUUU STrokes : 209.U	
	Tolerance mm : + 0.25
Tolerance	<del> </del>
cm3/1000 strokes : +- 1.0	Rated speed rpm : 1183
Chis/ toda Strokes . +- 1.0	· · · · · · · · · · · · · · · · · · ·
•	🕂 guide sleeve
Check tolerance -	† travel mm : 10.00
cm3/1000s. : +- 4.0	Tolerance mm : + 0.25
CIID/ (0003, . +- 4.0	T roterance inti
	†
Spreed -	+ Rated speed rpm : 1280
Tolerance	guide sleeve
cm3/1000 strokes : 6.0	† travel mm : 11.50
-	+ Tolerance mm : + 0.50
Check tolerance -	
cm3/1000s. : 9.0	
<u>-</u>	→ GUIDE SLEEVE POSITION
Rated speed rpm : 300	L
Raced Speed (pill . 500	1440
•	Rated speed rpm : 1160
Rack travel in mm: 5.20 -	+
Tolerance mm : + 0.30	Rack travel in mm : 13.80
Del. quantity -	Tolerance mm : +- 1.30
cm3/1000 strokes : 19.0 -	<del>}</del>
Tolerance -	<u> </u>
	CHILLOAD DELTUEDY AT CHILLOAD OTOD
cm3/1000 strokes : +- 3.0 -	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	<del> -</del>
cm3/1000s. : +- 6.0	Rated speed rpm : 550
Spreed	Aneroid pressure
Tolerance	├ hPa : 1200
cm3/1000 strokes : 6.0	Del. quantity
· ·	
Check tolerance	cm3/1000 strokes : 289.0
cm3/1000s. : 10.0	<del>l</del> Tolerance
	cm3/1000 strokes : + 1.0
· ·	
-	Check tolerance
(B) SETTING OF INJECTION PUMP	Check tolerance
(B) SETTING OF INJECTION PUMP	Check tolerance cm3/1000s. : +- 4.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Check tolerance cm3/1000s. : +- 4.0 Spreed
· · · · · · · · · · · · · · · · · · ·	Check tolerance cm3/1000s.:+- 4.0 Spreed Tolerance
· · · · · · · · · · · · · · · · · · ·	Check tolerance cm3/1000s. : +- 4.0 Spreed
WITH GOVERNOR	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0
· · · · · · · · · · · · · · · · · · ·	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
WITH GOVERNOR  GUIDE SLEEVE TRAVEL	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 - guide sleeve	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 - guide sleeve - travel mm : 1.29	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 - guide sleeve	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 - guide sleeve - travel mm : 1.29	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 - guide sleeve travel mm : 1.29 - Tolerance mm : + 0.20 - Guide sleeve travel mm : +	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 - guide sleeve travel mm : 1.29 - Tolerance mm : + 0.20  Rated speed rpm : 1108	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 - guide sleeve travel mm : 1.29 - Tolerance mm : + 0.20  Rated speed rpm : 1108 - guide sleeve	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 - guide sleeve - travel mm : 1.29 - Tolerance mm : + 0.20  Rated speed rpm : 1108 - guide sleeve	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 122.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.29 Tolerance mm : + 0.20  Rated speed rpm : 1108 guide sleeve travel mm : 8.54	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 - guide sleeve - travel mm : 1.29 - Tolerance mm : + 0.20  Rated speed rpm : 1108 - guide sleeve	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 122.0 tolerance degree : +- 4.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.29 Tolerance mm : + 0.20  Rated speed rpm : 1108 guide sleeve travel mm : 8.54	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 122.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.29 Tolerance mm : + 0.20  Rated speed rpm : 1108 guide sleeve travel mm : 8.54 Tolerance mm : + 0.15	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 14.20
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.29 Tolerance mm : + 0.20  Rated speed rpm : 1108 guide sleeve travel mm : 8.54 Tolerance mm : + 0.15  Rated speed rpm : 558	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 14.20 Rated speed rpm : 1095
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.29 Tolerance mm : + 0.20  Rated speed rpm : 1108 guide sleeve travel mm : 8.54 Tolerance mm : + 0.15  Rated speed rpm : 558 guide sleeve	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 14.20
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.29 Tolerance mm : + 0.20  Rated speed rpm : 1108 guide sleeve travel mm : 8.54 Tolerance mm : + 0.15  Rated speed rpm : 558	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 14.20 Rated speed rpm : 1095
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.29 Tolerance mm : + 0.20  Rated speed rpm : 1108 guide sleeve travel mm : 8.54 Tolerance mm : + 0.15  Rated speed rpm : 558 guide sleeve travel mm : 4.53	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 14.20 Rated speed rpm : 1095 Tolerance 1/min : +- 5
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.29 Tolerance mm : + 0.20  Rated speed rpm : 1108 guide sleeve travel mm : 8.54 Tolerance mm : + 0.15  Rated speed rpm : 558 guide sleeve	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 14.20 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.29 Tolerance mm : + 0.20  Rated speed rpm : 1108 guide sleeve travel mm : 8.54 Tolerance mm : + 0.15  Rated speed rpm : 558 guide sleeve travel mm : 4.53 Tolerance mm : + 0.25	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 14.20 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1180
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.29 Tolerance mm : + 0.20  Rated speed rpm : 1108 guide sleeve travel mm : 8.54 Tolerance mm : + 0.15  Rated speed rpm : 558 guide sleeve travel mm : 4.53	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 14.20 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.29 Tolerance mm : + 0.20  Rated speed rpm : 1108 guide sleeve travel mm : 8.54 Tolerance mm : + 0.15  Rated speed rpm : 558 guide sleeve travel mm : 4.53 Tolerance mm : + 0.25  Rated speed rpm : 608	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 14.20 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1180
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.29 Tolerance mm : + 0.20  Rated speed rpm : 1108 guide sleeve travel mm : 8.54 Tolerance mm : + 0.15  Rated speed rpm : 558 guide sleeve travel mm : 4.53 Tolerance mm : + 0.25  Rated speed rpm : 608 guide sleeve	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 14.20 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : +- 15
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.29 Tolerance mm : + 0.20  Rated speed rpm : 1108 guide sleeve travel mm : 8.54 Tolerance mm : + 0.15  Rated speed rpm : 558 guide sleeve travel mm : 4.53 Tolerance mm : + 0.25  Rated speed rpm : 608 guide sleeve travel mm : 5.03	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 14.20 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : +- 15  rack travel mm : 15  rack travel mm : 15
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.29 Tolerance mm : + 0.20  Rated speed rpm : 1108 guide sleeve travel mm : 8.54 Tolerance mm : + 0.15  Rated speed rpm : 558 guide sleeve travel mm : 4.53 Tolerance mm : + 0.25  Rated speed rpm : 608 guide sleeve	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 14.20 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : +- 15  rack travel mm : 15  rack travel mm : 15  rack travel mm : 15  rack travel mm : 15  rack travel mm : 15
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.29 Tolerance mm : + 0.20  Rated speed rpm : 1108 guide sleeve travel mm : 8.54 Tolerance mm : + 0.15  Rated speed rpm : 558 guide sleeve travel mm : 4.53 Tolerance mm : + 0.25  Rated speed rpm : 608 guide sleeve travel mm : 5.03	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 14.20 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : +- 15  rack travel mm : 0.75 Tolerance mm : 0.75 Tolerance mm : +- 0.75
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.29 Tolerance mm : + 0.20  Rated speed rpm : 1108 guide sleeve travel mm : 8.54 Tolerance mm : + 0.15  Rated speed rpm : 558 guide sleeve travel mm : 4.53 Tolerance mm : + 0.25  Rated speed rpm : 608 guide sleeve travel mm : 5.03 Tolerance mm : + 0.25	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 14.20 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : +- 15  rack travel mm : 15  rack travel mm : 15
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.29 Tolerance mm : + 0.20  Rated speed rpm : 1108 guide sleeve travel mm : 8.54 Tolerance mm : + 0.15  Rated speed rpm : 558 guide sleeve travel mm : 4.53 Tolerance mm : + 0.25  Rated speed rpm : 608 guide sleeve travel mm : 5.03	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 14.20 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : +- 15  rack travel mm : 0.75 Tolerance mm : 0.75 Tolerance mm : +- 0.75

		<u> </u>
LOW IDLE		START CUT-OUT
control lever position degree tolerance degree		Rated speed rpm : < 220 Check speed 1/min : < 240
Testing:		FUEL DELIVERY CHARACTERISTICS
Rated speed rpm rack travel mm Tolerance mm	: 5.20 : + 0.10 : 200	Aneroid pressure hPa : 1200 Rated speed rpm : 1050 Del. quantity cm3/1000 strokes : 269.0 Tolerance
CRT mm min.	: > 8.20	+ cm3/1000 strokes : +- 3.0 + Check tolerance
Rated speed rpm	: 375	cm3/1000s. : + 6.0 + Spreed - Tolerance
TORQUE CONTROL		+ cm3/1000 strokes : 8.0 + Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 550 : 15.20 : ← 0.05	+ cm3/1000s. : 12.0 + - Aneroid pressure
Rated speed rpm rack travel mm Tolerance mm		+ hPa : - + Rated speed rpm : 500 + Del. quantity + cm3/1000 strokes : 136.0 + Tolerance
ANEROID/ALTITUDE COMPENSATOR TEST		- + cm3/1000 strokes : +- 1.0 + Check tolerance + cm3/1000s. : +- 4.0 + Spreed
SETTING		+ Tolerance + cm3/1000 strokes : 8.0 + Check tolerance
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 400 : 1200 : 15.20 : + 0.05	cm3/1000s. : 12.0  BREAKAWAY
MEASUREMENT		+
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 400 : 8.25 : + 0.15	+ Rack travel in mm : 14.20 + Rated speed rpm : 1095 + Tolerance 1/min : + 5
Rated speed rpm	: 400	STARTING FUEL DELIVERY
Pressure hPa rack travel mm Tolerance mm	: 300 : 9.95 : +- 0.20	Rated speed rpm : 100  Del. quantity  cm3/1000 strokes : 255.0
Pressure hPa rack travel mm Tolerance mm	: 500 : 11.65 : + 0.20	+ Tolerance + cm3/1000 strokes : +- 20.0 + Check tolerance + cm3/1000S. : +- 24.0

# LOW IDLE

Rated speed rpm rack travel mm Tolerance mm Del. quantity	: : +-	300 5.20 0.30
cm3/1000 strokes	:	19.0
Tolerance		
cm3/1000 strokes	: +-	3 <b>.0</b>
Check tolerance	• +-	6.0
Spreed	•	0.0
Tolerance		
cm3/1000 strokes	:	6.0
Check tolerance cm3/1000s.	:	10.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 31.05.95 : ISO 4113 Test oil

Combination No. : 0 402 648 992

Injection pump

Pump designation : PE8P120A320LS7847-2

EP type number : 0 412 628 885

Governor

Governer design. : RQV300...1050PA1033

: -21

: 0 421 814 145 Governer no.

Cust. part No. : 0250747502

Customer-spec. information Customer : MB-NFZ : OM442 LA Motor Power KW : 280.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

Tolerance l/h : + 170 : + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 Tolerance bar **:** + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 5.55 Tolerance mm : +- 0.05

test only : + 0.10

Rack travel in mm: 20.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

: 0-45-90-135-180 Phasing

: -225-270-315 : + 0.30Tolerance

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

550 Rated speed rpm

Rack travel in mm: 14.80 Tolerance mm :  $\leftarrow$  0.05

C16

Del. quantity		+ guide sleeve
cm3/1000 strokes	: 239.0	+ travel mm : 6.13
		+ Tolerance mm : + 0.25
Tolerance		Total differ limit . 1 U.25
		Dated annual man
cm3/1000 strokes	: + 1.0	+ Rated speed rpm : 1183
Check tolerance		† travel mm : 10.00
cm3/1000s.	: +- 4.0	+ Tolerance mm : + 0.25
		+
Spreed		+ Rated speed rpm : 1280
Tolerance		guide sleeve
cm3/1000 strokes	: 6.0	travel mm : 11.50
CIIDA 1000 SCHOKES	. 0.0	
at a total and		+ Tolerance mm : + 0.50
Check tolerance		†
cm3/1000s.	: 9.0	+
		+ GUIDE SLEEVE POSITION
Rated speed rpm	: 300	+
•		+ Rated speed rpm : 1140
Rack travel in mn	n: 5.70	
		Book troval in m. 4 17 70
Tolerance mm	0.30	+ Rack travel in mm: 13.30
Del. quantity	4	+ Tolerance mm : +- 1.30
cm3/1000 strokes	: 13.0	†
Tolerance		
cm3/1000 strokes	: <del>←</del> 3.0	+ FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance		1
cm3/1000s.	: +- 6.0	Rated speed rpm : 550
Spreed	0.0	Aneroid pressure
•		
Tolerance		† hPa : 1200
cm3/1000 strokes	: 8.0	† Del. quantity
Check tolerance		+ cm3/1000 strokes : 239.0
7/40000	: 10.0	+ Tolerance
CMS/ (UUUS.	: 10.0	T IULEIGING
cm3/1000s.	: 10.0	
Cm3/ (UUUS.	: 10.0	+ cm3/1000 strokes : +- 1.0
		cm3/1000 strokes : +- 1.0 + Check tolerance
(B) SETTING OF IN		- cm3/1000 strokes : +- 1.0 - Check tolerance - cm3/1000s. : +- 4.0
		- cm3/1000 strokes : +- 1.0 - Check tolerance - cm3/1000s. : +- 4.0 - Spreed
(B) SETTING OF IN		cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	- cm3/1000 strokes : +- 1.0 - Check tolerance - cm3/1000S. : +- 4.0 - Spreed - Tolerance - cm3/1000 strokes : 6.0
(B) SETTING OF IN	JECTION PUMP	- cm3/1000 strokes : +- 1.0 - Check tolerance - cm3/1000S. : +- 4.0 - Spreed - Tolerance - cm3/1000 strokes : 6.0 - Check tolerance
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	- cm3/1000 strokes : +- 1.0 - Check tolerance - cm3/1000S. : +- 4.0 - Spreed - Tolerance - cm3/1000 strokes : 6.0
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV	JECTION PUMP	- cm3/1000 strokes : +- 1.0 - Check tolerance - cm3/1000S. : +- 4.0 - Spreed - Tolerance - cm3/1000 strokes : 6.0 - Check tolerance
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV	JECTION PUMP	- cm3/1000 strokes : +- 1.0 - Check tolerance - cm3/1000S. : +- 4.0 - Spreed - Tolerance - cm3/1000 strokes : 6.0 - Check tolerance
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve	JECTION PUMP  /EL : 300	- cm3/1000 strokes : +- 1.0 - Check tolerance - cm3/1000s. : +- 4.0 - Spreed - Tolerance - cm3/1000 strokes : 6.0 - Check tolerance - cm3/1000s. : 9.0
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm	JECTION PUMP  JEL  : 300  : 1.29	- cm3/1000 strokes : +- 1.0 - Check tolerance - cm3/1000S. : +- 4.0 - Spreed - Tolerance - cm3/1000 strokes : 6.0 - Check tolerance
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve	JECTION PUMP  /EL : 300	- cm3/1000 strokes : +- 1.0 - Check tolerance - cm3/1000s. : +- 4.0 - Spreed - Tolerance - cm3/1000 strokes : 6.0 - Check tolerance - cm3/1000s. : 9.0
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm  Tolerance mm	## JECTION PUMP  ##################################	- cm3/1000 strokes : +- 1.0 - Check tolerance - cm3/1000s. : +- 4.0 - Spreed - Tolerance - cm3/1000 strokes : 6.0 - Check tolerance - cm3/1000s. : 9.0 - RATED SPEED
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm	JECTION PUMP  JEL  : 300  : 1.29	cm3/1000 strokes : +- 1.0  Check tolerance  cm3/1000s. : +- 4.0  Spreed  Tolerance  cm3/1000 strokes : 6.0  Check tolerance  cm3/1000s. : 9.0  RATED SPEED  control lever
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve	## JECTION PUMP  ##################################	cm3/1000 strokes : +- 1.0  Check tolerance  cm3/1000s. : +- 4.0  Spreed  Tolerance  cm3/1000 strokes : 6.0  Check tolerance  cm3/1000s. : 9.0  RATED SPEED  control lever  position degree : 121.0
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm	### JUNECTION PUMP  ##################################	cm3/1000 strokes : +- 1.0  Check tolerance  cm3/1000s. : +- 4.0  Spreed  Tolerance  cm3/1000 strokes : 6.0  Check tolerance  cm3/1000s. : 9.0  RATED SPEED  control lever
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm	### JUNECTION PUMP  ##################################	cm3/1000 strokes : +- 1.0  Check tolerance  cm3/1000s. : +- 4.0  Spreed  Tolerance  cm3/1000 strokes : 6.0  Check tolerance  cm3/1000s. : 9.0  RATED SPEED  control lever  position degree : 121.0
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve	## JECTION PUMP  ##################################	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : +- 4.0
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	## JUNECTION PUMP  ##################################	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : +- 4.0  rack travel mm : 13.30
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm Rated speed rpm Rated speed rpm	### JUNECTION PUMP  ##################################	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : +- 4.0  rack travel mm : 13.30 Rated speed rpm : 1095
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm	UECTION PUMP  VEL  : 300  : 1.29  : ← 0.20  : 1110  : 8.58  : ← 0.15  : 558	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : +- 4.0  rack travel mm : 13.30
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm	### JECTION PUMP  ##################################	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : +- 4.0  rack travel mm : 13.30 Rated speed rpm : 1095 Tolerance 1/min : +- 5
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm	UECTION PUMP  VEL  : 300  : 1.29  : ← 0.20  : 1110  : 8.58  : ← 0.15  : 558	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : +- 4.0  rack travel mm : 13.30 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm	### JECTION PUMP  ##################################	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : +- 4.0  rack travel mm : 13.30 Rated speed rpm : 1095 Tolerance 1/min : +- 5
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm	### JECTION PUMP  ##################################	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : +- 4.0  rack travel mm : 13.30 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm  Rated speed rpm	## JECTION PUMP  ##################################	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : +- 4.0  rack travel mm : 13.30 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1185
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm	## JECTION PUMP  ### JEL  ### 300  ### 1.29  ### 0.20  ### 1110  ### 8.58  ### 0.15  ### 558  ### 4.53  ### 0.25  ### 608	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : +- 4.0  rack travel mm : 13.30 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1185 Tolerance 1/min : +- 15
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm	### JECTION PUMP  ##################################	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : +- 4.0  rack travel mm : 13.30 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1185 Tolerance 1/min : +- 15  rack travel mm : 15
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm	## JECTION PUMP  ### JEL  ### 300  ### 1.29  ### 0.20  ### 1110  ### 8.58  ### 0.15  ### 558  ### 4.53  ### 0.25  ### 608	cm3/1000 strokes : +- 1.0  Check tolerance cm3/1000s. : +- 4.0  Spreed Tolerance cm3/1000 strokes : 6.0  Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 121.0 tolerance degree : +- 4.0  rack travel mm : 13.30 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1185 Tolerance 1/min : +- 15  rack travel mm : 0.75 Tolerance mm : 0.75 Tolerance mm : +- 0.75
(B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm	### JECTION PUMP  ##################################	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : +- 4.0  rack travel mm : 13.30 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1185 Tolerance 1/min : +- 15  rack travel mm : 15

	1
	Pressure hPa : 450
LOW IDLE	rack travel mm : 13.85
	+ Tolerance mm : + 0.20
control lever	I
position degree : 66.0	
tolerance degree : +- 4.0	+
Testing:	+ Rated speed rpm : < 220 + Check
restrig.	speed 1/min : < 240
Rated speed rpm : 300	+
rack travel mm : 5.50	
Tolerance mm : + 0.10	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : 200	Aneroid pressure
, ,	+ hPa : 1200
CRT mm min. :> 7.30	+ Rated speed rpm : 1050
Rated speed rpm : 375	+ Del. quantity + cm3/1000 strokes : 217.0
nated speed (pill . 373	Tolerance
TORQUE CONTROL	+ Check tolerance
Rated speed rpm : 550	+ cm3/1000s. : +- 5.0 + Spreed
Rated speed rpm : 55U rack travel mm : 14.80	Tolerance
Tolerance mm : + 0.05	+ cm3/1000 strokes : 8.0
	+ Check tolerance
Rated speed rpm : 1050 rack travel mm : 14.30	- cm3/1000s. : 12.0
Tolerance mm : + 0.10	Aneroid pressure
	+ hPa : -
Rated speed rpm : 850	+ Rated speed rpm : 500
rack travel mm : 14.60 Tolerance mm : + 0.10	+ Del. quantity + cm3/1000 strokes : 144.0
Toterance min . T- 0.18	+ Tolerance
ANEROID/ALTITUDE	+ Check tolerance
COMPENSATOR TEST	+ cm3/1000s. : +- 4.0
	+ Spreed + Tolerance
SETTING	+ cm3/1000 strokes : 8.0
	+ Check tolerance
Rated speed rpm : 400 Pressure hPa : 1200	† cm3/1000s. : 12.0
rack travel mm : 14.80	
Tolerance mm : ← 0.05	+ BREAKAWAY
ME A CLIPPMENT	†
MEASUREMENT	T Rack travel in mm: 13.30
Pressure hPa : -	Rated speed rpm : 1095
Rated speed rpm : 400	+ Tolerance 1/min : +- 5
rack travel mm : 11.35 Tolerance mm : + 0.20	İ
roterance num ; == 0.20	
Rated speed rpm : 400	+ STARTING FUEL DELIVERY
December 200	Rated speed rpm : 100
Pressure hPa : 300 rack travel mm : 12.55	+ Rated speed rpm : 100 + Del. quantity
Tolerance mm : + 0.20	+ cm3/1000 strokes : 210.0
	·

Tolerance cm3/1000 strokes : + 20.0 Check tolerance

Check tolerance cm3/1000s. : +- 24.0

# LOW IDLE

Rated speed rpm 300 5.70 rack travel mm Tolerance mm : +- 0.30 Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 10.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.06.95 Test oil : ISO 4113

Combination No. : 0 402 648 993

Injection pump

Pump designation : PE8P120A320LS7838

: -10

EP type number : 0 412 628 854

Governor

Governer design. : RQ300/950PA971-11 Governer no. : 0 421 801 764

Cust. part No. : 0260740202

Customer—spec. information Customer : MB-NFZ Motor : 0M442 LA Power KW : 320.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Tolerance L/h: +- 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3 :-5-4-1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : + 0.30

Check

tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.00 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 254.0	<pre>guide sleeve travel mm : 6.00 Tolerance mm : + 0.10</pre>
Tolerance cm3/1000 strokes : +- 1.0	Rated speed rpm : 1190 guide sleeve
Check tolerance cm3/1000s. : +- 4.0	travel mm : 11.50 Tolerance mm : + 0.50
Spreed Tolerance cm3/1000 strokes : 6.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : 9.0	+ Rated speed rpm : 600 + Rack travel in mm : 20.00
Rated speed rpm : 300	Tolerance mm : + 0.80
Rack travel in mm : 6.10 Tolerance mm : + 0.30	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 19.0	Rated speed rpm : 550 Aneroid pressure
Tolerance cm3/1000 strokes : +- 3.0 Check tolerance	+ hPa : 1000 + Del. quantity + cm3/1000 strokes : 254.0
cm3/1000s. : +- 6.0 Spreed	Tolerance + cm3/1000 strokes : + 1.0
Tolerance cm3/1000 strokes : 6.0 Check tolerance	+ Check tolerance + cm3/1000S. : +- 4.0 + Spreed
cm3/1000s. : 10.0	Tolerance cm3/1000 strokes : 6.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+ Check tolerance + cm3/1000s. : 9.0 +
	- RATED SPEED
GUIDE SLEEVE TRAVEL	<u>}</u>
Rated speed rpm : 300 guide sleeve	control lever position degree : 98.0
travel mm : 1.72 Tolerance mm : + 0.10	tolerance degree : + 4.0
Rated speed rpm : 1005 guide sleeve	+ rack travel mm : 14.00 + Rated speed rpm : 998 + Tolerance 1/min : + 8
Tolerance mm : 6.34  Tolerance mm : + 0.10	rack travel mm : 4.00 Rated speed rpm : 1100
Rated speed rpm : 950 guide sleeve	Tolerance 1/min : +- 15
travel mm : 6.00 Tolerance mm : + 0.10	rack travel mm : 0.75 Tolerance mm : +- 0.75 Rated speed rpm : 1200
Rated speed rpm : 451 guide sleeve	
travel mm : 4.76 Tolerance mm : + 0.10	+ LOW IDLE
- · · · · · · · · · · · · · · · · · · ·	•

Rated speed rpm : 580

		†
control lever position degree tolerance degree	: 74.0 : +- 4.0	START CUT-OUT
•		Rated speed rpm : > 240
Testing:		+ Check + speed 1/min : > 260
Rated speed rpm		+
rack travel mm Tolerance mm		FUEL DELIVERY CHARACTERISTICS
	. 2.00	+
rack travel mm Rated speed rpm	: 2.00 : 430	+ Aneroid pressure + hPa : 1000
Tolerance 1/min	: +- 30	+ Rated speed rpm : 950
Debad aread are	. 200	+ Del. quantity
Rated speed rpm	: 200	+ cm3/1000 strokes : 242.0 + Tolerance
CRT mm min.	: > 9.00	cm3/1000 strokes : + 3.0
		+ Check tolerance
TORQUE CONTROL		+ cm3/1000s. : + 6.0 + Spreed
TORGOL CONTINOL		Tolerance
Rated speed rpm	: 550	+ cm3/1000 strokes : 8.0
rack travel mm Tolerance mm		Check tolerance : 12.0
10ter di ice niki		1 (113) 10003.
Rated speed rpm	: 950	Aneroid pressure
rack travel mm Tolerance mm	: 15.00 : + 0.05	+ hPa : - + Rated speed rpm : 500
roterance nan	. — 0.03	Del. quantity
		+ cm3/1000 strokes : 135.0
ANEROID/ALTITUDE COMPENSATOR TEST		+ Tolerance + cm3/1000 strokes : +- 1.0
COMPENSATOR TEST		Check tolerance
		+ cm3/1000s. : +- 4.0
SETTING		+ Spreed + Tolerance
Rated speed rpm	: 400	cm3/1000 strokes : 8.0
Pressure hPa	: 1000	+ Check tolerance
rack travel mm		+ cm3/1000s. : 12.0
Tolerance mm	: +- 0.05	I
MEASUREMENT		BREAKAWAY
Pressure hPa	: -	Ţ
Rated speed rpm	: 400	+ Rack travel in mm : 14.00
rack travel mm Tolerance mm	: 9.10 : +- 0.15	+ Rated speed rpm : 998 + Tolerance 1/min : + 8
roterance nan	: += 0.15	T Total and the triming the tr
Rated speed rpm	: 400	<u> </u>
Pressure hPa	: 250	+ STARTING FUEL DELIVERY
rack travel mm	: 10.95	Poted speed npm + 100
Tolerance mm	: +- 0.15	+ Rated speed rpm : 100 + Del. quantity
Pressure hPa	: 550	+ cm3/1000 strokes : 235.0
rack travel mm	: 13.85	+ Tolerance
Tolerance mm	: + 0.15	+ cm3/1000 strokes : + 20.0 + Check tolerance
		+ cm3/1000s. : + 24.0

# LOW IDLE

Rated speed rpm	:	300
rack travel mm	:	6.10
Tolerance mm	: +-	0.30
Del. quantity		
cm3/1000 strokes	•	19.0
Tolerance		
cm3/1000 strokes	: +-	3.0
Check tolerance		
cm3/1000s.	: +-	6.0
Spreed		
Tolerance		
cm3/1000 strokes	:	6.0
Check tolerance		
cm3/1000s.	:	10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 07.07.95 : ISO 4113 Test oil

Combination No. : 0 402 648 996

Injection pump

Pump designation : PE8P120A320LS7839

: -10

EP type number : 0 412 628 855

Governor

Governer design. : RQV300...950PA1199

: -1

: 0 421 814 131 Governer no.

Cust. part No. : 0250749702

Customer-spec. information Customer : MB-NFZ Motor : 0M442 LA

Power KW : 370.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

: 75 min. L/h Tolerance l/h:  $\leftarrow$  10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar

Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 5.05 : +- 0.05 Tolerance mm

test only : **←** 0.10

Rack travel in mm: 14.50 Tolerance mm :  $\leftarrow$  0.50

: 8-7-2-6-3 :-5-4-1 Firing order

: 0-45-90-135-180 Phasing : -225-270-315

: +- 0.30 Tolerance

Check

tolerance "NW : + 0.75

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.20

Tolerance mm :  $\leftarrow$  0.05

Dol guantity	∔ guide sleeve
Del. quantity cm3/1000 strokes : 289.0	travel mm : 6.31
CIRTICOU SCIONES . EOV.U	+ Tolerance mm : +- 0.25
Tolerance	1 Vocci di loc limir v. es
cm3/1000 strokes : +- 1.0	Rated speed rpm : 1092
CHIST TOOD SET ONES . TO	+ guide sleeve
Check tolerance	+ travel mm : 10.00
cm3/1000s. : + 4.0	+ Tolerance mm : + 0.25
1107 100001	TOCCI GIVE THE
Spreed	+ Rated speed rpm : 1190
Tolerance	+ guide sleeve
cm3/1000 strokes : 6.0	+ travel mm : 11.50
	+ Tolerance mm : + 0.50
Check tolerance	+
cm3/1000s. : 9.0	
	+ GUIDE SLEEVE POSITION
Rated speed rpm : 300	+
	+ Rated speed rpm : 1030
Rack travel in mm : 5.20	+
Tolerance mm : + 0.30	+ Rack travel in mm : 14.20
Del. quantity	+ Tolerance mm : + 1.30
cm3/1000 strokes : 19.0	+
Tolerance	+
$cm3/1000$ strokes : $\leftarrow$ 3.0	+ FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	
cm3/1000s. : ← 6.0	Rated speed rpm : 550
Spreed	+ Aneroid pressure
Tolerance	+ hPa : 1200
cm3/1000 strokes : 6.0	+ Del. quantity
Check tolerance	+ cm3/1000 strokes : 289.0
cm3/1000s. : 10.0	+ Tolerance
	+ cm3/1000 strokes : +- 1.0
(D) OFFETALO OF THE POTTON DUMP	Check tolerance
(B) SETTING OF INJECTION PUMP	+  cm3/1000s. : + 4.0
WITH GOVERNOR	+ Spreed
	+ Tolerance + cm3/1000 strokes : 6.0
GUIDE SLEEVE TRAVEL	Check tolerance
GOIDE STEENE IMAKET	+ cm3/1000s. : 9.0
Rated speed rpm : 300	I (1137 10003: 7.0
guide sleeve	
travel mm : 1.29	T RATED SPEED
Tolerance mm : + 0.20	1
TO THE TOTAL THE TOTAL T	+
Rated speed rpm : 1009	+ control lever
guide sleeve	+ position degree : 123.0
travel mm : 8.55	+ tolerance degree : + 4.0
Tolerance mm : +- 0.15	+
	+ rack travel mm : 14.20
Rated speed rpm : 567	+ Rated speed rpm : 995
guide sleeve	+ Tolerance 1/min : + 5
travel mm : 4.66	+
Tolerance mm : + 0.25	+ rack travel mm : 4.00
	+ Rated speed rpm : 1090
Rated speed rpm : 617	+ Tolerance 1/min : + 15
guide sleeve	+
travel mm : 5.23	+ rack travel mm : 0.75
Tolerance mm : + 0.25	+ Tolerance mm : + 0.75
	+ Rated speed rpm : 1250
Rated speed rpm : 780	+

### LOW IDLE START CUT-OUT Rated speed rpm control lever 79.0 position degree tolerance degree : + 4.0 Testing: Rated speed rpm 300 3.50 rack travel mm Tolerance mm : +- 0.10 200 Rated speed rpm 6.50 CRT mm min. : > 320 Rated speed rpm TORQUE CONTROL 550 Rated speed rpm rack travel mm 15.20 Tolerance mm : + 0.05 950 Rated speed rpm 15.20 rack travel mm : + 0.10Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING 400 Rated speed rpm 1200 Pressure hPa 15.20 rack travel mm : + - 0.05Tolerance mm **MEASUREMENT** Pressure hPa 400 Rated speed rpm 8.25 rack travel mm 0.15 Tolerance mm 400 Rated speed rpm 300 Pressure hPa 9.95 rack travel mm : + 0.20Tolerance mm Pressure hPa 500

11.65

: + 0.20

Rated speed rpm Check	: < 220	
speed 1/min	: < 240	
FUEL DELIVERY CHA	RACTERISTICS	
Aneroid pressure hPa	: 1200	
Rated speed rpm Del. quantity	: 950	
cm3/1000 strokes	: 271.0	
Tolerance cm3/1000 strokes	: +- 3.0	
Check tolerance cm3/1000s.	: +- 6.0	
Aneroid pressure		
hPa Rated speed rpm	: – : 500	
Del. quantity		
cm3/1000 strokes Tolerance		
cm3/1000 strokes Check tolerance	: +- 1.0	
cm3/1000s. Spreed	: ← 4.0	
Tolerance cm3/1000 strokes	. 00	
Check tolerance	: 8.0	
cm3/1000s.	: 12.0	
BREAKAWAY		
Rack travel in mm	: 14.20	
Rated speed rpm Tolerance 1/min	: 995 : +- 5	
Toterance Triniti	. —	
STARTING FUEL DELIVERY		
Rated speed rpm		
Del. quantity		
cm3/1000 strokes Tolerance	: 255.0	
cm3/1000 strokes Check tolerance	: <b>←</b> 20.0	
cm3/1000s.	: +- 24.0	
LOW IDLE		

rack travel mm

Tolerance mm

Rated speed rpm	: 300
rack travel mm	: 5.20
Tolerance mm	: +- 0.30
Del. quantity	
cm3/1000 strokes	: 19.0
Tolerance	
cm3/1000 strokes	: <del>-</del> 3.0
Check tolerance	
cm3/1000s.	: +- 6.0
Spreed	
Tolerance	
cm3/1000 strokes	: 6.0
Check tolerance	- 40.0
cm3/1000S.	: 10.0

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 31.05.95 Test oil : ISO 4113

Combination No. : 0 402 676 821

Injection pump

Pump designation : PE6P12OA32OLS7854 EP type number : 0 412 626 872

Governor

Governer design. : RSV550...1050P0A826

: -9

Governer no. : 0 421 833 459

Cust. part No. : 0250746302

Customer-spec. information Customer : MB-NFZ Motor : OM 441 LA Power KW : 239.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 115 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 6-3-5-2-4-

. 1

Phasing : 0-60-120-180-240

: -300 Tolerance : + 0.30

Check

tolerance  $^{\circ}NW$  : + 0.75

Start of delivery mark

Barrel no. : 6

# BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.60
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 224.0

Tolerance cm3/1000 strokes : + 1.0	Tolerance cm3/1000 strokes : 5.0 Check tolerance
Check tolerance cm3/1000s. : + 4.0	cm3/1000s. : 9.0
Spreed Tolerance cm3/1000 strokes : 5.0	RATED SPEED
Check tolerance cm3/1000s. : 9.0	control lever position degree : 88.0 tolerance degree : +- 4.0
Rated speed rpm : 550	LOW IDLE
Rack travel in mm : 3.90 Tolerance mm : + 0.30 Del. quantity	control lever
cm3/1000 strokes : 19.0 +	position degree : 67.0 tolerance degree : +- 4.0
cm3/1000 strokes : +- 3.0	Testing:
Spreed + Tolerance + cm3/1000 strokes : 6.0 +	Rated speed rpm : 550 rack travel mm : 3.90 Tolerance mm : ÷ 0.10
Check tolerance cm3/1000s. : 10.0	rack travel mm : 2.00 Rated speed rpm : 565
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance 1/min : + 20  Rated speed rpm : 450
1	CRT mm min. :> 8.50
GUIDE SLEEVE POSITION	SET IDLE AUXILIARY SPRING
Rated speed rpm : 800	rack travel mm : 2.00
Rack travel in mm: 0.50 Tolerance mm: + 0.20	TORQUE CONTROL
governor spring pre-tension click setting x : 1.50	Rated speed rpm : 1050 rack travel mm : 13.60 Tolerance mm : + 0.05
	Rated speed rpm : 970
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 13.90 Tolerance mm : + 0.10
Rated speed rpm : 1050 Aneroid pressure	Rated speed rpm : 750
hPa : - + Del. quantity + cm3/1000 strokes : 224.0 +	Rated speed rpm : 750 rack travel mm : 14.20 Tolerance mm : +- 0.10
Tolerance + cm3/1000 strokes : + 1.0 + Check tolerance +	
cm3/1000s. : +- 4.0 Spreed	FUEL DELIVERY CHARACTERISTICS
τ	

Aneroid pressure 750 Rated speed rpm Del. quantity cm3/1000 strokes : 247.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s.6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0 STARTING FUEL DELIVERY 100 Rated speed rpm : Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes :  $\leftarrow$  15.0 Check tolerance : + 19.0 cm3/1000s. LOW IDLE 550 Rated speed rpm rack travel mm 3.90 Tolerance mm : +- 0.30 Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 10.0 End of test specification sheet

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 26.06.95 Test oil : ISO 4113

Combination No. : 0 402 678 825

# Injection pump

Pump designation : PE8P12OA32OLS7823-2

EP type number : 0 412 628 883

### Governor

Governer design. : RSV450...1050P0A541

: -1

Governer no. : 0 421 833 444

Cust. part No. : 0250744202

Customer—spec. information Customer : MB-NFZ Motor : OM442LA Power KW : 362.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Tolerance l/h:  $\leftarrow$  10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

# (A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 8-7-2-6-3 :-5-4-1

• 3 4 (

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : + 0.30

Check

tolerance \*NW : +- 0.50

Start of delivery mark

Barrel no. : 8

### BASIC SETTING

Rated speed rpm : 1030

Rack travel in mm : 14.90 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 255.0

D03

Tolerance + 1.0 +	
	- RATED SPEED
Check tolerance + 4.0 +	• •
	control lever
Spreed Tolerance cm3/1000 strokes : 5.0	position degree : 90.0 tolerance degree : +- 4.0
Check tolerance cm3/1000s. : 9.0	- LOW IDLE
Rated speed rpm : 450	control lever
Rack travel in mm: 4.60	position degree : 69.0 tolerance degree : +- 4.0
Tolerance mm : + 0.30	
Del. quantity cm3/1000 strokes : 18.0	Testing:
Tolerance	Rated speed rpm : 450
cm3/1000 strokes : $\leftarrow$ 3.0	rack travel mm : 4.60
Check tolerance	Tolerance mm : +- 0.10
cm3/1000s. : +- 6.0 +	
Spreed +	rack travel mm : 2.00 Rated speed rpm : 475
cm3/1000 strokes : 8.0	Tolerance 1/min : +- 30
Check tolerance	
cm3/1000s. : 12.0	Rated speed rpm : 100
(D) CETTING OF THIS CITION DUMO	CRT mm min. : > 19.50
(B) SETTING OF INJECTION PUMP  WITH GOVERNOR  +	SET IDLE AUXILIARY SPRING
+	rack travel mm : 2.00
GUIDE SLEEVE POSITION	TORQUE CONTROL
Rated speed rpm : 800	
8-4 4 0.50	Rated speed rpm : 1030
Rack travel in mm : 0.50 + Tolerance mm : + 0.20 +	rack travel mm : 14.90 Tolerance mm : +- 0.05
Total ance and	TOTAL INFO
+	Rated speed rpm : 950
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 15.00 Tolerance mm : +- 0.05
Rated speed rpm : 1030	Tolerance mm : +- 0.05
Aneroid pressure +	Rated speed rpm : 875
hPa : 1600	rack travel mm : 15.35
Del. quantity + cm3/1000 strokes : 255.0 +	Tolerance mm : +- 0.10
Tolerance +	Rated speed rom : 750
cm3/1000 strokes : + 1.0	Rated speed rpm : 750 rack travel mm : 15.50 Tolerance mm : +- 0.10
Check tolerance +	Tolerance mm : +- 0.10
cm3/1000s. : + 4.0	Dated aread rev
Spreed + Tolerance +	Rated speed rpm : 550
cm3/1000 strokes : 5.0 +	rack travel mm : 15.50 Tolerance mm : + 0.10
Check tolerance cm3/1000S. : 9.0	

ANEROID/ALTITUDE COMPENSATOR TEST  SETTING  Rated speed rpm : 500 Pressure hPa : -  MEASUREMENT  Pressure hPa : 400 Rated speed rpm : 500 rack travel mm : 0.75 Tolerance mm : + 0.05  Rated speed rpm : 500  Pressure hPa : 1600 rack travel mm : 4.90 Tolerance mm : + 0.20  Pressure hPa : 700 rack travel mm : 3.55 Tolerance mm : + 0.10  FUEL DELIVERY CHARACTERISTICS  Aneroid pressure hPa : 750 Del. quantity cm3/1000 strokes : 274.5 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000s. : 12.0  Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : 4.0 Spreed Tolerance cm3/1000 strokes : 4.0 Spreed Tolerance cm3/1000 strokes : 4.0 Spreed Tolerance cm3/1000 strokes : 4.0 Spreed Tolerance cm3/1000 strokes : 4.0 Spreed Tolerance cm3/1000 strokes : 8.0		
Rated speed rpm : 500 Pressure hPa : -  MEASUREMENT  Pressure hPa : 400 Rated speed rpm : 500 rack travel mm : 0.75 Tolerance mm : + 0.05  Rated speed rpm : 500  Pressure hPa : 1600 rack travel mm : 4.90 Tolerance mm : + 0.20  Pressure hPa : 700 rack travel mm : 3.55 Tolerance mm : + 0.10  Pressure hPa : 700 rack travel mm : 3.55 Tolerance mm : + 0.10  FUEL DELIVERY CHARACTERISTICS  Aneroid pressure hPa : 750 Del. quantity cm3/1000 strokes : 274.5 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 12.0  Aneroid pressure hPa : 500 Del. quantity cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : 1.0 Check tolerance cm3/1000 strokes : 4.0 Spreed Tolerance		
### Pressure hPa : -  ### MEASUREMENT  Pressure hPa : 400 Rated speed rpm : 500 rack travel mm : 0.75 Tolerance mm : + 0.05  Rated speed rpm : 500  Pressure hPa : 1600 rack travel mm : 4.90 Tolerance mm : + 0.20  Pressure hPa : 700 rack travel mm : 3.55 Tolerance mm : + 0.10  #### Tolerance mm : + 0.10  #### Tolerance mm : + 0.10  #### Tolerance mm : 750 Del. Quantity cm3/1000 strokes : 274.5 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 12.0  ###################################	SETTING	
Pressure hPa : 400 Rated speed rpm : 500 rack travel mm : 0.75 Tolerance mm : + 0.05  Rated speed rpm : 500  Pressure hPa : 1600 rack travel mm : 4.90 Tolerance mm : + 0.20  Pressure hPa : 700 rack travel mm : 3.55 Tolerance mm : + 0.10  FUEL DELIVERY CHARACTERISTICS  Aneroid pressure hPa : 750 Del. quantity Cm3/1000 strokes : 274.5 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000s. : 12.0  Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000s. : 12.0  Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 151.0 Folerance Cm3/1000 strokes : 151.0 Folerance Cm3/1000 strokes : + 1.0 Check tolerance Cm3/1000s. : + 4.0 Spreed Folerance		: 500 : -
Rated speed rpm : 500 rack travel mm : 0.75 Tolerance mm : + 0.05  Rated speed rpm : 500  Pressure hPa : 1600 rack travel mm : 4.90 Tolerance mm : + 0.20  Pressure hPa : 700 rack travel mm : 3.55 Tolerance mm : + 0.10  FUEL DELIVERY CHARACTERISTICS  Aneroid pressure hPa : 1600 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 274.5 Tolerance cm3/1000s: + 5.0 Spreed Tolerance cm3/1000s: + 5.0  Aneroid pressure hPa : 5.0 Spreed Tolerance cm3/1000s: + 5.0  Aneroid pressure hPa : - 750 Check tolerance cm3/1000s: + 5.0  Aneroid pressure hPa : - 750 Del. quantity cm3/1000s: + 5.0  Aneroid pressure hPa : - 750 Del. quantity cm3/1000s: + 5.0  Aneroid pressure hPa : - 750 Del. quantity cm3/1000s: + 5.0  Check tolerance cm3/1000s: + 5.0  Check tolerance cm3/1000s: + 5.0  Check tolerance cm3/1000s: + 4.0  Check tolerance cm3/1000s: + 4.0  Check tolerance cm3/1000s: + 4.0  Check tolerance	MEASUREMENT	
Pressure hPa : 1600 rack travel mm : 4.90 Tolerance mm : + 0.20  Pressure hPa : 700 rack travel mm : 3.55 Tolerance mm : + 0.10  FUEL DELIVERY CHARACTERISTICS  Aneroid pressure hPa : 1600 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 274.5 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000s. : 12.0  Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000s. : 12.0  Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance	Rated speed rpm rack travel mm	: 500 : 0.75
rack travel mm : 4.90 Tolerance mm : + 0.20  Pressure hPa : 700 rack travel mm : 3.55 Tolerance mm : + 0.10  FUEL DELIVERY CHARACTERISTICS  Aneroid pressure hPa : 1600 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 274.5 Tolerance cm3/1000s. : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000s. : 2.0  Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 12.0  Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 151.0 Folerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Folerance	Rated speed rpm	: 500
rack travel mm : 3.55 Tolerance mm : + 0.10  FUEL DELIVERY CHARACTERISTICS  Aneroid pressure hPa : 1600 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 274.5 Tolerance cm3/1000s strokes : + 2.0 Check tolerance cm3/1000s : + 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s : 12.0  Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s : + 4.0 Spreed Tolerance	rack travel mm	: 4.90
Aneroid pressure hPa : 1600 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 274.5 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  Aneroid pressure hPa : Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance	rack travel mm	: 3.55
Cm3/1000 strokes : 274.5 Tolerance Cm3/1000 strokes : + 2.0 Check tolerance Cm3/1000s. : + 5.0 Spreed Tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000s. : 12.0  Aneroid pressure Check tolerance Cm3/1000 strokes : 500 Del. quantity Cm3/1000 strokes : 151.0 Tolerance Cm3/1000 strokes : + 1.0 Check tolerance Cm3/1000s. : + 4.0 Spreed Tolerance	hPa Rated speed rpm Del. quantity	: 750
Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance	cm3/1000 strokes	• 274.5
Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance		. 614.5
cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance	cm3/1000 strokes	
Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance	cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: +- 2.0
hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance	cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: +- 2.0 : +- 5.0
Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance	cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: +- 2.0 : +- 5.0 : 8.0
cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000S. : +- 4.0 Spreed Tolerance	cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure	: +- 2.0 : +- 5.0 : 8.0 : 12.0
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cm3/1000S. : +- 4.0 Spreed Tolerance	cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: ← 2.0 : ← 5.0 : 8.0 : 12.0 : 500
	cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: + 2.0 : + 5.0 : 8.0 : 12.0 : 500 : 151.0
	cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: ← 2.0 : ← 5.0 : 8.0 : 12.0 : 500 : 151.0 : ← 1.0

Check tolerance cm3/1000s. : 12.0 STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 10.0Check tolerance cm3/1000s. : + 14.0LOW IDLE 450 Rated speed rpm : rack travel mm : 4.60 : +- 0.30 Tolerance mm Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 01.08.95 Test oil : ISO 4113

Combination No. : 0 402 744 801

Injection pump

Pump designation : PES4P120A320RS7380

EP type number : 0 412 724 802

Governor

Governer design. : RQV275...1300PA1232K

Governer no. : 0 421 815 469

Cust. part No. : CCEP 5149 66-237

Customer-spec. information

Customer : RVI

Motor : MIDR 04-02-26 B4

Power KW : 110.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Overflow quantity

min. L/h : 95 Tolerance L/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.00 Tolerance mm : + 0.05

test only  $: \leftarrow 0.10$ 

Rack travel in mm : 11.00 Tolerance mm : + 0.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : + 0.30

Check

tolerance  $^{\circ}NW$  :  $\div$  0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Del. quantity cm3/1000 strokes : 236.0

\_\_\_\_

Tolerance cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance cm3/1000 strokes : 5.0	+ guide sleeve + travel mm : 13.50 + Tolerance mm : + 0.50
Check tolerance cm3/1000s. : 9.0	
Rated speed rpm : 325	GUIDE SLEEVE POSITION
Rack travel in mm : -6.60	Rated speed rpm : 1500
Tolerance mm : +- 0.20 Del. quantity	Rack travel in mm: 11.10 Tolerance mm: + 1.50
cm3/1000 strokes : 40.0 Tolerance	İ
cm3/1000 strokes : +- 2.0 Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : +- 6.0 Spreed	+ Rated speed rpm : 1200 + Aneroid pressure
Tolerance cm3/1000 strokes : 8.0	+ hPa : 1200 + Del. quantity
Check tolerance	+ cm3/1000 strokes : 236.0
cm3/1000s. : 12.0	+ Tolerance + cm3/1000 strokes : +- 1.0
(B) SETTING OF INJECTION PUMP	+ Check tolerance + cm3/1000s. : +- 4.0
WITH GOVERNOR	+ Spreed
	Tolerance : 5.0
GUIDE SLEEVE TRAVEL	Check tolerance cm3/1000s. : 9.0
Rated speed rpm : 325	T CIID/10003 9.0
guide sleeve	
travel mm : 1.57	+ RATED SPEED
Tolerance mm : + 0.25	<u> </u>
Rated speed rpm : 1381	control lever
guide sleeve	position degree : 302.0
travel mm : 10.37	+ tolerance degree : + 4.0
Tolerance mm : + 0.25	+
	+ rack travel mm : -1.60
Rated speed rpm : 940	+ Rated speed rpm : 1352
guide sleeve	Tolerance 1/min : + 5
travel mm : 6.87	+
Tolerance mm : + 0.25	+ rack travel mm : -8.70 + Rated speed rpm : 1465
Rated speed rpm : 390	Tolerance 1/min : + 15
guide sleeve	1 occi artoc i i iii i i i i i i i i i i i i i i i
travel mm : 2.39	rack travel mm : -12.20
Tolerance mm : + 0.25	Tolerance mm : +- 0.50
Toter differmation	Rated speed rpm : 1550
Rated speed rpm : 440	Mateu speed (pii) . 1330
guide sleeve	
travel mm : 2.90	LOW IDLE
Tolerance mm : +- 0.25	L LOW IDEC
•	+
Rated speed rpm : 560	control lever
guide sleeve	position degree : 253.0
travel mm : 4.01	tolerance degree : +- 4.0
Tolerance mm : +- 0.25	+
Rated speed rpm : 1650	+ Testing: +

Rated speed rpm	: 325	+
rack travel mm Tolerance mm	: -6.60	THE DELIVERY CHARACTER TO THE
loterance mm		FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 200	Aneroid pressure hPa : 1200
CRT mm min.	: < -4.60	Rated speed rpm : 700  Del. quantity
Rated speed rpm	: 390	Aneroid pressure hPa : 1200 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 237.0 Tolerance
TORQUE CONTROL		+ cm3/1000 strokes : + 3.0 + Check tolerance
Rated speed rpm	: 1200	cm3/1000s. : +- 6.0
Dotad aroad war	. 700	+ Aneroid pressure + hPa : 1200
Rated speed rpm	: 700 : -1.15	Rated speed rpm : 1300
rack travel mm Tolerance mm	: <del>+-</del> 0.10	Del. quantity
	-	cm3/1000 strokes : 225.0
Rated speed rpm rack travel mm	: -0.50	+ Tolerance + cm3/1000 strokes : +- 6.0
Tolerance mm		Check tolerance
	-	cm3/1000s. : + 9.0
Rated speed rpm	: 350	<b>*</b>
rack travel mm Tolerance mm	: -2.90 : +- 0.20	+ Aneroid pressure + hPa : -
iblei difice illin	0.20	Rated speed rpm : 500
<del></del>		Del. quantity
ANEROID/ALTITUDE	-	cm3/1000 strokes : 155.0
COMPENSATOR TEST	-	+ Tolerance + cm3/1000 strokes : +- 1.0
		Check tolerance
SETTING	-	cm3/1000s. : +- 4.0
Rated speed rpm	: 1200	
Pressure hPa	: 1200 -	BREAKAWAY
	-	+
MEASUREMENT	3	† Rack travel in mm : -1.60
Pressure hPa	: -	Rated speed rpm : 1352
Rated speed rpm	: 500	Tolerance 1/min : + 5
rack travel mm	: -4.20	+
Tolerance mm	: <b>←</b> 0.20	
Rated speed rpm	: 1200	STARTING FUEL DELIVERY
Pressure hPa	: 320 -	Rated speed rpm : 100
rack travel mm		Del. quantity
Tolerance mm	: <b>←</b> 0.20	cm3/1000 strokes : 100.0 Tolerance
Pressure hPa	• 520	cm3/1000 strokes : + 15.0
rack travel mm	: 520 - : -2.50 -	Check tolerance
rack travel mm Tolerance mm	: +- 0.05	cm3/1000s. : +- 19.0
START CUT-OUT		
<b>D</b> 4 - 1	277	LOUITNIC
Rated speed rpm Check	: < 275	LOW IDLE
speed 1/min	: < 285	Rated speed rpm : 325
		, same and the same of the sam

rack travel mm Tolerance mm	: +-	-6.60 0.20
Del. quantity cm3/1000 strokes Tolerance	:	40.0
cm3/1000 strokes	: +-	2.0
Check tolerance cm3/1000s. Spreed	: +-	6.0
Tolerance cm3/1000 strokes Check tolerance	:	8.0
cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) \\400/...

Edition : 19.07.95 Test oil : ISO 4113

Combination No. : 0 402 746 602

Injection pump

Pump designation : PES6P120A320RS7359

: -1

EP type number : 0 412 726 949

Covernor

Governer design. : RQ275/1050PA1217-1

Governer no. : 0 421 801 798

Cust. part No. : CCEP 5152 66-229

Customer-spec. information

Customer : RVI

Motor : MIDRO62045 R41

Power KW : 221.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.75 Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.25 Tolerance mm : + 0.75

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 281.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed	+
Tolerance cm3/1000 strokes : 5.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. 9.0	Rated speed rpm : 1177
Rated speed rpm : 300	Rack travel in mm : 12.30 Tolerance mm : + 1.30
Rack travel in mm : -7.10	<b>†</b>
Tolerance mm : +- 0.20 Del. quantity	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : 25.0 Tolerance	Rated speed rpm : 600 Aneroid pressure
cm3/1000 strokes : +- 2.0 Check tolerance	+ hPa : 1000 + Del. quantity
cm3/1000s. : +- 5.0 Spreed	cm3/1000 strokes : 281.0
Tolerance cm3/1000 strokes : 8.0	cm3/1000 strokes : + 1.0 Check tolerance
Check tolerance cm3/1000s. : 12.0	cm3/1000s. : + 4.0
CIID/ 10003 12.0	Tolerance 5.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Check tolerance cm3/1000s. : 9.0
	İ
GUIDE SLEEVE TRAVEL	RATED SPEED
Rated speed rpm : 300 guide sleeve	control lever
travel mm : 2.19	position degree : 274.0
Tolerance mm : + 0.20	tolerance degree : + 4.0
Rated speed rpm : 1122 guide sleeve	rack travel mm : -1.00 Rated speed rpm : 1115
travel mm : 6.36	+ Tolerance 1/min : + 5
Tolerance mm : $\leftarrow$ 0.15	+ + rack travel mm : −9.30
Rated speed rpm : 1050 guide sleeve	Rated speed rpm : 1235 Tolerance 1/min : + 15
travel mm : 6.00	+
Tolerance mm : +- 0.10	+ rack travel mm : -12.80 + Tolerance mm : + 0.50
Rated speed rpm : 408 guide sleeve	Rated speed rpm : 1350
travel mm : 5.26 Tolerance mm : +- 0.10	LOW IDLE
	T COW IVEC
guide sleeve	control lever position degree : 255.0
travel mm : 6.00 Tolerance mm : + 0.10	+ position degree : 255.0 + tolerance degree : + 4.0
	T
Rated speed rpm : 1330 guide sleeve	Testing:
	Testing: Rated speed rpm : 300 rack travel mm : -7.10 Tolerance mm : + 0.10

rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min.  TORQUE CONTROL Rated speed rpm Tolerance mm	: 395 : + 20 : 200 : > -4.40 : 600 : + 0.05	<del>+</del> +++++++++++++++++++++++++++++++++++	Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: ← 6.0 : - : 500 : 182.0
Rated speed rpm Tolerance mm	: + 0.10	- T	BREAKAWAY	
ANEROID/ALTITUDE COMPENSATOR TEST		† † †	Rack travel in mm Rated speed rpm Tolerance 1/min	: 1115
SETTING		‡		······
Rated speed rpm Pressure hPa	: 500 : 1000	‡	STARTING FUEL DEL	
MEASUREMENT		† + +	Rated speed rpm rack travel mm Tolerance mm	: 20.25
Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm	: -2.15 : + 0.20 : 500 : 240	+++++++++++++++++++++++++++++++++++++++	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 140.0
Tolerance mm	: +- 0.15	<del>}</del>	LOW IDLE	
Pressure hPa rack travel mm Tolerance mm	: 400 : -0.60 : ← 0.05	# # # #	Rated speed rpm rack travel mm Tolerance mm Del. quantity	: 300 : -7.10 : + 0.20
START CUT-OUT		Ì	cm3/1000 strokes Tolerance	: 25.0
Rated speed rpm Check speed 1/min	: < 195 : < 215	}	cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: +- 2.0 : +- 5.0
FUEL DELIVERY CHA	RACTERISTICS	<del>-</del>	cm3/1000 strokes	: 8.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes		+++++	Check tolerance cm3/1000S.	: 12.0

Test Lines : 1 680 750 089 BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Outside diameter : 8.0 Refer to Service Info for test and 3.0 x inside diameter : adjustment instructions. x length mm 600 See microcard(s) W400/... : 22.05.95 Edition : ISO 4113 Test oil REMARKS Combination No. : 0 402 746 650 Injection pump (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. Pump designation: PES6P120A320RS7344 EP type number : 0 412 726 914 per values \_\_\_\_\_ Governor Governer design. : RQ275/1050PA999-6 BEGINNING OF DELIVERY Governer no. : 0 421 801 785 Test pressure bar : 26.0 Tolerance bar 1.0 : CCEP 5151 66-230 Cust. part No. Prestroke mm 4.50 Customer-spec. information : + 0.05Tolerance nm Customer : RVI : MIDR 062045 M41 : + 0.10Motor test only Power KW : 250.0 Rack travel in mm: 11.00 Tolerance mm : + 0.50 TEST BENCH REQUIREMENTS Firing order : 1-5-3-6-2-Inlet line : 3.1 Test oil inlet Phasing : 0-60-120-180-240 temp. °C 40 : -300 Tolerance °C 2.0 Tolerance : + 0.30Check tolerance °NW : + 0.50: 2 417 413 071 Overflow valve Start of delivery mark Inlet press. bar : 2.5 Barrel no. 1 Overflow quantity 145 min. L/h BASIC SETTING Tolerance l/h : +- 10.0 600 Rated speed rpm Del quantity Test nozzle holde : 1 688 901 105 cm3/1000 strokes : 291.0 assembly Tolerance Opening pressure 208.5 1.0

cm3/1000 strokes : +-

4.0

Check tolerance cm3/1000s.

bar

Tolerance bar

1.5

	1	
Spreed		
Tolerance	+	GUIDE SLEEVE POSITION
cm3/1000 strokes	: 5.0	Rated speed rpm : 600
Check tolerance		Rated speed rpm : 600
cm3/1000s.	: 9.0	Rack travel in mm : 20.00
	+	Tolerance mm : +- 0.80
Rated speed rpm	: 275	
Rack travel in mm	: -7.20	FULL LOAD DELIVERY AT FULL LOAD STOP
	: + 0.20	TOLL EURO DELIVERY AT TOLL LOAD STOT
Del. quantity	+	Rated speed rpm : 600
cm3/1000 strokes	: 35.0 +	Aneroid pressure
Tolerance cm3/1000 strokes	: ← 2.0 ‡	hPa : 1000 Del. quantity
Check tolerance	1	cm3/1000 strokes : 291.0
	: +- 5.0 <sup>1</sup>	Tolerance
Spreed	+	cm3/1000 strokes : +- 1.0
Tolerance		Check tolerance
cm3/1000 strokes Check tolerance	: 8.0	cm3/1000s. : +- 4.0 Spreed
cm3/1000s.	: 12.0	Tolerance
	+	cm3/1000 strokes : 5.0
(a) ammunia an mili	+	Check tolerance
(B) SETTING OF INJ	ECTION PUMP	cm3/1000s. : 9.0
WITH GOVERNOR	I	
		RATED SPEED
GUIDE SLEEVE TRAVE	L +	
Datad amand man	: 275	control lever
Rated speed rpm guide sleeve	: 2/3	position degree : 275.0
travel mm	: 0.80	tolerance degree : + 4.0
Tolerance mm	: ← 0.10 +	•
Dition of man	. 4472	rack travel mm : -1.00
Rated speed rpm guide sleeve	: 1132	Rated speed rpm : 1125 Tolerance 1/min : +- 5
travel mm	: 6.37	Total ance mining . The S
	: + 0.10 +	rack travel mm : -7.70
	+	Rated speed rpm : 1230
	: 1050 +	Tolerance 1/min : + 15
guide sleeve travel mm	: 6.00	rack travel mm : -11.25
	+ 0.10	Tolerance mm : + 0.50
	+	Rated speed rpm : 1350
Rated speed rpm	: 416 +	
guide sleeve travel mm	: 3.44	LOW IDLE
	+ 0.10 T	LOW IDEE
· were mixed that	+	
	: 560 +	control lever
guide sleeve	: 6.00	position degree : 250.0
travel mm : Tolerance mm :	+ 0.10	tolerance degree : +- 4.0
, a cor arrect tiall	1	Testing:
	: 1350	_
guide sleeve	+	Rated speed rpm : 275
travel mm : Tolerance mm :	11.50 + + 0.50 +	rack travel mm : -7.20 Tolerance mm : +- 0.10
TO COLORIDO INFO	T	(Oct direction U.10

rack travel mm : -9.70 Rated speed rpm : 365 Tolerance 1/min : + 20  Rated speed rpm : 200  CRT mm min. : < -6.00  TORQUE CONTROL  Rated speed rpm : 600  Rated speed rpm : 1050	Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0  Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 114.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0
Tolerance mm : + 0.10  ANEROID/ALTITUDE COMPENSATOR TEST  SETTING	BREAKAWAY  Rack travel in mm: -1.00 Rated speed rpm: 1125 Tolerance 1/min: +- 5
Rated speed rpm : 500 Pressure hPa : 1000	STARTING FUEL DELIVERY
MEASUREMENT	Rated speed rpm : 100  Del. quantity
Pressure hPa : - Rated speed rpm : 500 rack travel mm : -3.75 Tolerance mm : + 0.30  Rated speed rpm : 500	cm3/1000 strokes : 150.0 + Tolerance - cm3/1000 strokes : + 15.0 - Check tolerance - cm3/1000s. : + 19.0
Pressure hPa : 320 rack travel mm : -2.75 Tolerance mm : + 0.15	LOW IDLE
Pressure hPa : 560 rack travel mm : -1.25 Tolerance mm : + 0.05	Rated speed rpm : 275 rack travel mm : -7.20 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 35.0
START CUT-OUT	+ Tolerance + cm3/1000 strokes : + 2.0
Rated speed rpm : < 225 Check speed 1/min : < 245	Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance
FUEL DELIVERY CHARACTERISTICS	+ cm3/1000 strokes : 8.0 + Check tolerance + cm3/1000s. : 12.0
Aneroid pressure hPa : 1000 Rated speed rpm : 1050 Del. quantity cm3/1000 strokes : 284.0	- cm3/1000s. : 12.0
VINDE FULL OF COURS . LOTEU	1

# BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.05.95 Test oil : ISO 4113

Combination No. : 0 402 746 924

Injection pump

Pump designation : PES6P110A320RS7243 EP type number : 0 412 716 806

Governor

Governer design. : RQV275...1250PA942

: -2K

Governer no. : 0 421 815 288

Cust. part No. : CCEP5124B

Customer—spec. information Customer : RVI

Motor : MIDRO6-06-26 L/2

Power KW : 132.5

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.90 Tolerance mm : + 0.05

test only  $: \leftarrow 0.10$ 

Rack travel in mm : 13.50Tolerance mm :  $\leftarrow 0.50$ 

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance "NW : + 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Del. quantity

cm3/1000 strokes : 141.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.5

Spreed

Tolerance

cm3/1000 strokes : 4.0

	<u></u>	Aneroid pressure	
Check tolerance	<del></del>	hPa	: 1000
cm3/1000s. : 7.	5 +	Del. quantity	
No.	†	cm3/1000 strokes	: 141.0
Del. quantity cm3/1000 strokes : 26.	n †	Tolerance cm3/1000 strokes	: +- 1.0
Tolerance	Ī	Check tolerance	. +- 1.0
cm3/1000 strokes : + 2.	0 1	cm3/1000s.	: +- 3.5
Check tolerance	1	Spreed	
$cm3/1000s$ . : $\leftarrow$ 5.	0 +	Tolerance	
Spreed	t	cm3/1000 strokes	: 4.0
Tolerance		Check tolerance	. 3.6
cm3/1000 strokes : 4. Check tolerance	> †	cm3/1000s.	: 7.5
cm3/1000s. : 7.	5 I	************************	
	<b>1</b>	RATED SPEED	
	· 🗼		
(B) SETTING OF INJECTION PU	MP +		
WITH GOVERNOR	+	control lever	
	†	position degree	
CHIEF OF FELLE TOALIER	<del></del> †	tolerance degree	: <b>←</b> 4.0
GUIDE SLEEVE TRAVEL	Ī	rack travel mm	: -1.00
Rated speed rpm : 1320	$\mathbf{I}$	Rated speed rpm	
guide sleeve	1	Tolerance 1/min	
travel mm : 9.8	o 🕹		
Tolerance mm : + 0.1		rack travel mm	: -9.00
	+	Rated speed rpm	: 1475
Rated speed rpm : 1000	+	Tolerance 1/min	: +- 15
guide sleeve	_ +		
travel mm : 7.2		rack travel mm	: -12.55
Tolerance mm : + 0.2	†	Tolerance mm	: + 0.55
Rated speed rpm : 275	I	Rated speed rpm	: 1600
guide sleeve	I		
travel mm : 1.0	n ↓	LOW IDLE	
Tolerance mm : + 0.10		<del></del>	
	+		
Rated speed rpm : 600	+	control lever	
guide steeve	_	position degree	: 222.0
travel mm : 4.44		tolerance degree	: +- 4.0
Tolerance mm : + 0.20	†	Tookinne	
Rated speed rpm : 1600	Ī	Testing:	
	I	Rated speed rpm	• 275
travel mm : 13.50	<b>ງ</b> ∔	rack travel mm	. −7.60
Tolerance mm : + 0.50		rack travel mm Tolerance mm	: +- 0.10
	+		
	<del></del> +	Rated speed rpm	: 200
GUIDE SLEEVE POSITION	†		
2/50	†	CRT mm min.	: < -7.00
Rated speed rpm : 1450	†	Datad aread are	. /15
Rack travel in mm: 10.10	,	Rated speed rpm	÷ 417
Tolerance mm : + 1.30			
	Ţ	TORQUE CONTROL	
**************************************	\		
FULL LOAD DELIVERY AT FULL L	LOAD STOP	Rated speed rpm	: 1250
	+	·	
Rated speed rpm : 1250	+	Rated speed rpm	: 650

rack travel mm	: -1.00	+	Rated speed rpm :	650
Tolerance mm	: + 0.10	†	Del. quantity cm3/1000 strokes :	40 O
Rated speed rpm	: 650	I	Tolerance	40.0
rack travel mm	: -6.00	+	cm3/1000 strokes : +	- 5 <b>.0</b>
Tolerance mm	: <b>←</b> 0.10	1	Check tolerance cm3/1000s. : +	- 8.0
Rated speed rpm	: 300	Ţ	Spreed	0.0
rack travel mm	: -1.60	+	Tolerance	
Tolerance mm	: ← 0.20	+	cm3/1000 strokes :	10.0
<del></del>	······································		Aneroid pressure	
ANEROID/ALTITUDE		+	hPa :	
COMPENSATOR TEST	•	+	Rated speed rpm :	500
		+	Del. quantity	
CETTANC		. †	cm3/1000 strokes :	80.0
SETTING		1	Tolerance cm3/1000 strokes : +	- 10
Rated speed rpm	: 1250	Ţ	Check tolerance	1.0
Pressure hPa		+	cm3/1000s. :+	- 3.5
		+	Spreed	
MEASUREMENT		†	Tolerance	40.0
Pressure hPa		†	cm3/1000 strokes : Check tolerance	10.0
Rated speed rpm	1250	Ī	cm3/1000s. :	14.0
rack travel mm		I	CIIS7 10005.	14.0
Tolerance mm		4		
	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1	BREAKAWAY	
Rated speed rpm	: 1250	+		
Passauna hDa	: 180	Ť	Rack travel in mm :	_1 00
Pressure hPa rack travel mm	: -2.25	Ī	Rated speed rom :	1325
Tolerance mm	: + 0.15	I	Tolerance 1/min : +-	_
		4		•
Pressure hPa	: 280	+		
rack travel mm		†		
Tolerance mm	: +- 0.05	İ	STARTING FUEL DELIVERY	,
	<del></del>	<del> </del>	Rated speed rpm :	100
START CUT-OUT		<b>.</b>	Del. quantity	
		+	cm3/1000 strokes :	115.0
Rated speed rpm	: < 225	+	Tolerance	45.5
Check	: < 245	†	cm3/1000 strokes : +- Check tolerance	- 15.0
speed 1/min	: < 245	Ī		- 19.0
				17.0
FUEL DELIVERY CHA	ARACTERISTICS	†		
Aneroid pressure		1		
hPa	: 1000	<b>1</b>	LOW IDLE	
Rated speed rpm		+		
Del. quantity		+	Del. quantity	
cm3/1000 strokes	: 126.5	+	cm3/1000 strokes :	26.0
Tolerance		†	Tolerance	2.0
cm3/1000 strokes Check tolerance	: +- 2.0	1	cm3/1000 strokes : +- Check tolerance	2.0
cm3/1000s.	: <del>←</del> 5.0	I	cm3/1000s. : +-	5.0
511D7 10000.	• • • • • • • • • • • • • • • • • • • •	1	Spreed	J. U
Aneroid pressure		+	Tolerance	
hPa	: -	+	cm3/1000 strokes :	4.5

cm3/1000s.	:	7.5	
	, <del></del>		

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.05.95 Test oil : ISO 4113

Combination No. : 0 402 746 928

Injection pump

Pump designation : PES6P110A320RS7243 EP type number : 0 412 716 806

Governor

Governer design. : RQV275...1175PA942

: -3K

: 0 421 815 294 Governer no.

Cust. part No. : CCEP5125B

Customer-spec. information

: RVI Customer

: MIDRO6-06-26 M/2 Motor

Power KW : 132.5

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : **←** 2.0

: 1 417 413 025 Overflow valve

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

208.5 bar Tolerance bar 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0 x inside diameter: 2.0 600 x Length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

4.90 Prestroke mm : **←** 0.05 Tolerance mm

test only : + 0.10

Rack travel in mm: 13.50 Tolerance mm : + 0.05

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : + - 0.30

Check

tolerance °NW : + 0.50

Start of delivery mark

Barrel no.

BASIC SETTING

Rated speed rpm 1175

Del. quantity cm3/1000 strokes :

153.0

Tolerance

1.0 cm3/1000 strokes : +-

Check tolerance

cm3/1000s. 3.5 : +-

Spreed

Tolerance

cm3/1000 strokes : 4.0

		+ Aneroid pressure	
Check tolerance		+ hPa	: 1000
cm3/1000s.	: 7.5	+ Del. quantity	
N. 1		+ cm3/1000 strokes	: 153.0
Del. quantity cm3/1000 strokes	: 25.0	+ Tolerance + cm3/1000 strokes	: +- 1.0
Tolerance	: 25.0	Check tolerance	; +- 1.0
cm3/1000 strokes	: <del>+</del> 2.0	cm3/1000s.	; <b>←</b> 3.5
Check tolerance		Spreed	
cm3/1000s.	: +- 5.0	+ Tolerance	
Spreed		+ cm3/1000 strokes	: 4.0
Tolerance		+ Check tolerance	
cm3/1000 strokes	: 4.5	+ cm3/1000s.	: 7.5
Check tolerance cm3/1000s.	: 7.5	†	
CMS/ (OUDS:	: 7.5	RATED SPEED	
		+	
(B) SETTING OF IN	NJECTION PUMP	+	
WITH GOVERNOR		+ control lever	
		+ position degree	
CUINE CLEEVE TON	(F)	+ tolerance degree	: +- 4.0
GUIDE SLEEVE TRAN	VEL	T rack travel mm	: -1.00
Rated speed rpm	: 1250	Rated speed rpm	
guide sleeve		+ Tolerance 1/min	: +- 5
travel mm	: 9.20	+	-
Tolerance mm	: <b>-</b> 0.10	rack travel mm	
		+ Rated speed rpm	
Rated speed rpm	: 1000	† Tolerance 1/min	: <del>+</del> 15
guide sleeve	7 00	+	40.05
travel mm	: 7.20	+ rack travel mm	: -12.95
Tolerance mm	<b>:</b> +- 0.20	+ Tolerance mm + Rated speed rpm	: ← 0.55 : 1550
Rated speed rpm	: 275	T Raced speed rpill	. 1330
guide sleeve	. 275	rack travel mm	: 4.00
travel mm	: 1.00	1	
Tolerance mm	: <b>←</b> 0.10	+	
		+ LOW IDLE	
Rated speed rpm	: 600	+	
guide sleeve			
travel mm	: 4.40 : + 0.20	<pre>control lever position degree</pre>	• 2/2 0
Tolerance mm	. — 0.20	tolerance degree	
Rated speed rpm	: 1600	+ coterance degree	
guide sleeve	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	+ Testing:	
travel mm	: 13.50	+	
Tolerance mm		+ Rated speed rpm	: 275
		rack travel mm Tolerance mm	: -8.30
01705 015515 0007		† Tolerance mm	: +- 0.10
GUIDE SLEEVE POSI	.I LUN	+ Rated speed rpm	: 200
Rated speed rpm	• 1/58	T Rated Speed (pill	. 200
varen sheen i hill	. 1770	T CRT mm min.	: < -7.70
Rack travel in mm	: 10.10	+	
Tolerance mm		+ Rated speed rpm	<b>:</b> 415
		+	
		TODA: 17 OCT   100	
FULL LOAD DELIVER	Y AT FULL LOAD STOP	TORQUE CONTROL	
Rated speed rpm	: 1175	Rated speed rpm	: 1175
Hasea opeca i pili	• , • • •	1 obood ibili	- · · · · ·

		1
Rated speed rpm	• 700	+ Aneroid pressure + hPa : -
rack travel mm	: -0.75	Rated speed rpm : 700
rack travel mm Tolerance mm	: + 0.10	L Dol guantity
		cm3/1000 strokes : 40.0
Rated speed rpm	: 700	+ Tolerance
rack travel mm Tolerance mm	: <del>−</del> 6.50	+ cm3/1000 strokes : +- 5.0
Tolerance mm	: +- 0.10	+ Check tolerance
	700	+ cm3/1000s. : + 8.0
Rated speed rpm	: 300	+ Spreed
rack travel mm Tolerance mm	: -1.50 : + 0.20	+ Tolerance + cm3/1000 strokes : 10.0
roter affice fight	. 1 0.20	I cliby thou strokes . 10.0
		Aneroid pressure
ANEROID/ALTITUDE		+ hPa : -
COMPENSATOR TEST	•	Rated speed rpm : 500
		+ Del. quantity
		- cm3/1000 strokes : 80.0
SETTING		† Tolerance
Dated annual in-	. 4475	cm3/1000 strokes : +- 1.0 Check tolerance
Rated speed rpm Pressure hPa	• 1000	+ cm3/1000s. : + 3.5
rressure iira	. 1000	Spreed
MEASUREMENT		+ Tolerance
		+ cm3/1000 strokes : 10.0
Pressure hPa	: -	+ Check tolerance
Rated speed rpm	: 1175	+ cm3/1000s. : 14.0
rack travel mm		†
Tolerance mm	: <b>←</b> 0.10	
Datad speed non	. 1175	+ BREAKAWAY
Rated speed rpm	: 1175	Ţ
Pressure hPa	: 240	Rack travel in mm: -1.00
rack travel mm		Rated speed rpm : 1260
Tolerance mm		+ Tolerance 1/min : + 5
		+
Pressure hPa	-	+
rack travel mm		ATTOTAL SUEL ASI TURNI
Tolerance mm	: + 0.05	+ STARTING FUEL DELIVERY
-		Rated speed rpm : 100
START CUT-OUT		+ Del. quantity
- /		+ cm3/1000 strokes : 115.0
Rated speed rpm	: < 225	+ Tolerance
Check		+ cm3/1000 strokes : +- 15.0
speed 1/min	: < 245	+ Check tolerance
		+ cm3/1000s. : +- 19.0
FUEL DELIVERY CH	ARACTERISTICS	I
I OFF DEFTARIAL CUA	UNACIENTO LEGO	1
Aneroid pressure		
hPa	: 1000	+ LOW IDLE
Rated speed rpm	: 700	†
Del. quantity	4-4-4	+ Del. quantity
cm3/1000 strokes	: 151.0	+ cm3/1000 strokes : 25.0
Tolerance cm3/1000 strokes	: +- 2.0	+ Tolerance + cm3/1000 strokes : +- 2.0
Check tolerance	· <del></del> 2.0	+ Check tolerance
cm3/1000s.	: +- 5.0	+ cm3/1000s. : +- 5.0
UIID/ 10000.		+ Spreed
		1 06. 000

Tolerance : 4.5 Check tolerance cm3/1000s. : 7.5

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.05.95 Test oil : ISO 4113

Combination No. : 9 402 746 952

Injection pump

Pump designation : PES6P120A320RS7294

EP type number : 0 412 726 895

Governor

Governer design. : RQV275...1000PA1001

: -2

Governer no. : 0 421 813 989

Cust. part No. : CCEP-5136 66-214

Customer-spec. information

Customer : RVI

Motor : MIDR 063540 N/3

Power kW : 283.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.55
Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 19.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.30

Check

tolerance \*No : + 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm: -7.25
Tolerance mm: + 0.30

Del. quantity

cm3/1000 strokes : 74.0

Tolerance	+	Rated speed rpm : 1086
cm3/1000 strokes	: <b>←</b> 1.0	guide sleeve
	+	travel mm : 8.46
Check tolerance	+	Tolerance mm : +- 0.10
cm3/1000s.	: +- 4.0	
	+	Rated speed rpm : 773
Spreed	+	guide sleeve
	<del>†</del>	travel mm : 6.09
Tolerance	, <u> </u>	Tolerance mm : +- 0.20
cm3/1000 strokes	: 4.0	m
	†	Rated speed rpm : 343
Check tolerance	<u> </u>	guide sleeve
cm3/1000s.	: 7.0	travel mm : 2.33
	†	Tolerance mm : + 0.20
Rated speed rpm	: 600 +	707
		Rated speed rpm : 393
Del. quantity	1000 5	guide sleeve
cm3/1000 strokes	: 290.0	travel mm : 2.99
		Tolerance mm : $\leftarrow$ 0.20
Tolerance	+	
cm3/1000 strokes	: +- 2.0 +	Rated speed rpm : 490
		guide sleeve
Check tolerance	<u> </u>	travel mm : 3.81
cm3/1000s.	: + 5.0 +	Tolerance mm : +- 0.20
Spreed	<u>†</u>	Rated speed rpm : 1370
Tolerance	†	guide sleeve
cm3/1000 strokes	: 8.0 +	travel mm : 11.50
<b>A</b> 1	<del></del> †	Tolerance mm : + 0.50
Check tolerance	t t	
cm3/1000s.	: 12.0	
	700	GUIDE SLEEVE POSITION
Rated speed rpm	: 300 +	4000
	1 1	Rated speed rpm : 1200
Rack travel in mm		20.00
Tolerance mm	: + 0.20 +	Rack travel in mm : 12.20
Del. quantity	74.0	Tolerance mm : +- 1.30
cm3/1000 strokes	: 31.0 +	
Tolerance	†	
cm3/1000 strokes	: ← 2.5	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance		Data 1 and 1 and 100
cm3/1000s.	: <b>←</b> 5.0 +	Rated speed rpm : 600
Spreed	†	Aneroid pressure
Tolerance	†	hPa : 1000
cm3/1000 strokes	: 6.0	Del. quantity
Check tolerance	†	cm3/1000 strokes : 290.0
cm3/1000s.	: 10.0	Tolerance
	†	cm3/1000 strokes : +- 2.0
(D) APPRELIA AP		Check tolerance
(B) SETTING OF IN	AECITON LOWS +	cm3/1000s. : + 5.0
WITH GOVERNOR	†	Spreed
	†	Tolerance
CUINE OF FRIE TO SE	<u> </u>	cm3/1000 strokes : 8.0
GUIDE SLEEVE TRAV	tl †	Check tolerance
Datad amand mus	. 700	cm3/1000s. : 12.0
Rated speed rpm	: 300 +	
guide sleeve	. 144	DATEN COUEN
travel mm	: 1.66	RATED SPEED
Tolerance mm	: + 0.10 †	
	+	

		ŧ
		T Donasius LDs
control lever	704 0	+ Pressure hPa : -
position degree	: 301.0	Rated speed rpm : 500
tolerance degree	: +- 4.0	+ rack travel mm : -3.80
		† Tolerance mm : + 0.20
rack travel mm	: -1.00	+
Rated speed rpm	: 1070	+ Rated speed rpm : 500
Tolerance 1/min	<b>: +</b> 5	
	•	Pressure hPa : 240
mack traval mm	0 30	rack travel mm : -2.60
rack travel mm Rated speed rpm Tolerance 1/min	. 1205	Tolerance mm : + 0.20
rated speed rpm	1203	† Toterance mm : 7 0.20
Toterance 1/min	: +- 15	†
		+ Pressure hPa : 480 + rack travel mm : -0.75
rack travel mm		
Tolerance mm	: ← 0.55	+ Tolerance mm : + 0.05
Tolerance mm Rated speed rpm	: 1350	<b>1</b>
The special remains		•
		START CUT-OUT
LOW IDLE		T START COT OUT
COM INCE		T Patral arread num
		+ Rated speed rpm : < 195
		+ Check
control lever		+ speed 1/min : < 215
position degree	: 247.0	<del> </del>
tolerance degree	• +- 4.0	
cotor and ang. co		+ FUEL DELIVERY CHARACTERISTICS
Testing:		TOLL VELIVENT CHARACTERIOTICS
resting.		T
		+ Aneroid pressure
Rated speed rpm		+ hPa : 1000
rack travel mm Tolerance mm	: -8.20	+ Rated speed rpm : 1000
Tolerance mm	: <b>←</b> 0.10	+ Del. quantity
		+ cm3/1000 strokes : 270.0
Rated speed rpm	: 200	+ Tolerance
rated speed rpill	. 200	
		+ cm3/1000 strokes : + 4.0
CRT mm max.	: < -6.80	+ Check tolerance
		+ cm3/1000s. : + 7.0
Rated speed rpm	: 365	+
•		+ Aneroid pressure
<del></del>		+ hPa : 1000
TORQUE CONTROL		Rated speed rpm : 600
TORGUE CONTROL		
<b>~</b>	/00	+ Del. quantity
Rated speed rpm	: 600	+ cm3/1000 strokes : 159.0
		† Tolerance
Rated speed rpm	: 1000	+ cm3/1000 strokes : +- 5.0
Tolerance mm		+ Check tolerance
	·	+  cm3/1000s. : + 8.0
Rated speed rpm	• 600	5preed
nateu speeu rpii	. UUU	
rack travel mm	-4.50	† Tolerance
Tolerance mm	: +- U.10	+ cm3/1000 strokes : 8.0
		+ Check tolerance
		+ cm3/1000s. : 12.0
ANEROID/ALTITUDE		+
COMPENSATOR TEST		Aneroid pressure
OUT IL LITOTES ON TEOT		hPa : -
		Rated speed rpm : 500
SETTING		+ Del. quantity
		+ cm3/1000 strokes : 167.0
Rated speed rpm	: 500	+ Tolerance
Pressure hPa		+ cm3/1000 strokes : + 1.0
i i Codai C i iii a	. ,000	Check tolerance
ME A OLIDEMENT		
MEASUREMENT		+ cm3/1000s. : +- 4.0

### BREAKAWAY

-1.00 Rack travel in mm : Rated speed rpm : 1070 Tolerance 1/min : ← 5

## STARTING FUEL DELIVERY

Del. quantity cm3/1000 strokes : 160.0 Tolerance

cm3/1000 strokes : +- 10.0Check tolerance

cm3/1000s. : +- 14.0

### LOW IDLE

300 Rated speed rpm -8.20 rack travel mm : + 0.20Tolerance mm Del. quantity cm3/1000 strokes : 31.0 Tolerance 2.5 cm3/1000 strokes : +-Check tolerance cm3/1000s. 5.0 Spreed Tolerance 6.0 cm3/1000 strokes : Check tolerance cm3/1000s. 10.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 12.05.95 Edition Test oil : ISO 4113

Combination No. : 0 402 746 953

## Injection pump

Pump designation : PES6P12OA32ORS7294 EP type number : 0 412 726 895

#### Governor

Governer design. : RQV275...1000PA1001

: -1

: 0 421 813 936 Governer no.

Cust. part No. : CCEP-5135 66-213

# Customer—spec. information

Customer : RVI

Motor

: MIDR 063540 J/3

Power KW : 306.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x Length mm : 600

REMARKS

## (A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

: 4.55 : + 0.05 Prestroke mm Tolerance mm

test only : **←** 0.10

Rack travel in mm: 13.50 : + 0.50 Tolerance mm

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

tolerance "NW :  $\leftarrow$  0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

600 Rated speed rpm :

Del. quantity cm3/1000 strokes : 310.0

Tolerance cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 4.0	travel mm : 3.81 Tolerance mm : + 0.20
Spreed	1 Occi direct nuit
Tolerance	Rated speed rpm : 1370
cm3/1000 strokes : 5.0	guide steeve
CIRD/ TOUG SCHOKES . J.O	travel mm : 11.50
Charle to Language	
Check tolerance	Tolerance mm : + 0.50
cm3/1000s. : 9.0	†
700	
Rated speed rpm : 300	+ GUIDE SLEEVE POSITION
5 1	†
Rack travel in mm : -8.60	+ Rated speed rpm : 1185
Tolerance mm : + 0.20	†
Del. quantity	+ Rack travel in mm : 12.60
cm3/1000 strokes : 31.0	+ Tolerance mm : +- 1.30
Tolerance	<del>}</del> -
cm3/1000 strokes : +- 2.0	
Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : ÷- 6.0	The state of the s
Spreed	Rated speed rpm : 600
Tolerance	Aneroid pressure
cm3/1000 strokes : 8.0	1000
	the second secon
Check tolerance	+ Del. quantity
cm3/1000s. : 12.0	+ cm3/1000 strokes : 310.0
	+ Tolerance
	+ cm3/1000 strokes : + 1.0
(B) SETTING OF INJECTION PUMP	+ Check tolerance
WITH GOVERNOR	+ cm3/1000s. : + 4.0
	Spreed
	+ Tolerance
GUIDE SLEEVE TRAVEL	+ cm3/1000 strokes : 5.0
GOINE OFFERE LUMATE	Check tolerance
Poted enood nom : 275	
Rated speed rpm : 275	+  cm3/1000s. : 9.0
guide sleeve	<b>†</b>
travel mm : 1.29	D. T. C. C. C. C. C. C. C. C. C. C. C. C. C.
Tolerance mm : + 0.10	+ RATED SPEED
	+
Rated speed rpm : 1086	+
guide sleeve	+ control lever
travel mm : 8.46	position degree : 302.0
Tolerance mm : + 0.10	+ tolerance degree : + 4.0
	1
Rated speed rpm : 773	+ rack travel mm : -1.00
guide sleeve	Rated speed rpm : 1070
	+ Tolerance 1/min : + 5
	T POLEI GIRCE 1/IIIII . T J
Tolerance mm : ← 0.20	7
	+ rack travel mm : -9.70
Rated speed rpm : 343	+ Rated speed rpm : 1210
guide sleeve	+ Tolerance 1/min : + 15
travel mm : 2.33	†
Tolerance mm : +- 0.20	+ rack travel mm : -13.25
	+ Tolerance mm : + 0.55
Rated speed rpm : 393	+ Rated speed rpm : 1350
guide sleeve	
travel mm : 2.99	
Tolerance mm : + 0.20	LOW IDLE
TOTAL CHAIR . T. C.CO	T. LOW LULE
Datad award was a 100	T
Rated speed rpm : 490	<b>T</b>
	+

control lever	2// 0	+ Check + speed 1/min : < 245
position degree tolerance degree		
Testing:		FUEL DELIVERY CHARACTERISTICS
Poted creed zon	: 300	+ Aneroid pressure + hPa : 1000
Rated speed rpm rack travel mm		Rated speed rpm : 1000
Tolerance mm		+ Del. quantity
<b>8-1-1 3</b>	200	- cm3/1000 strokes : 287.0
Rated speed rpm	: 200	+ Tolerance + cm3/1000 strokes : +- 3.0
CRT mm max.	: < -7.20	Check tolerance
		+  cm3/1000s. : +- 6.0
Rated speed rpm	: 370	Ananaid massaying
		+ Aneroid pressure 
TORQUE CONTROL		+ Rated speed rpm : 500
		<pre>Del. quantity</pre>
Rated speed rpm	: 600	+ cm3/1000 strokes : 138.0
Rated speed rpm	: 1000	+ Tolerance + cm3/1000 strokes : +- 5.0
Tolerance mm		+ Check tolerance
		+ cm3/1000s. : +- 8.0
Rated speed rpm		+ Spreed
rack travel mm Tolerance mm	: -5.50 : + 0.10	+ Tolerance + cm3/1000 strokes : 8.0
TOTEL GLICE HEIL	0.10	Check tolerance
ANEROID/ALTITUDE		+
COMPENSATOR TEST		+ Aneroid pressure + hPa : -
		Rated speed rpm : 500
SETTING		+ Del. quantity
	500	+ cm3/1000 strokes : 152.0
Rated speed rpm Pressure hPa		+ Tolerance + cm3/1000 strokes : +- 1.0
rressure nra	. 1000	Check tolerance
MEASUREMENT		+ cm3/1000s. : +- 4.0
December hDe	•	†
Pressure hPa Rated speed rpm	500	BREAKAWAY
rack travel mm	: -5.00	
Tolerance mm	: +- 0.20	
<b>0</b> -4 - 1 1	500	+ Rack travel in mm: -1.00
Rated speed rpm	: 500	+ Rated speed rpm : 1070 + Tolerance 1/min : +- 5
Pressure hPa	: 240	Total dide 1/11/11
rack travel mm	: -3.80	1
Tolerance mm	: <del>+-</del> 0.20	OTABITANO FUEL ACITATON
Pressure hPa	: 600	STARTING FUEL DELIVERY
rack travel mm	: -0.95	T Del. quantity
Tolerance mm	: +- 0.05	+ cm3/1000 strokes : 160.0
		Tolerance
CTART OUT		
START CUT-OUT		+ Check tolerance + cm3/1000s. : + 14.0
Rated speed rpm	: < 225	+ 14.0
		•

# LOW IDLE

Rated speed rpm rack travel mm Tolerance mm Del. quantity	: : +-	300 -8.60 0.20	
	:	31.0	
Tolerance cm3/1000 strokes	: +-	2.0	
Check tolerance		4.0	
cm3/1000s. Spreed	: +-	6.0	
Tolerance			
cm3/1000 strokes Check tolerance	:	8.0	
cm3/1000s.	:	12.0	

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 09.05.95 Edition : ISO 4113 Test oil

Combination No. : 0 402 946 010

Injection pump

Pump designation : PES6P120A320RS8028 EP type number : 0 412 926 021

Governor

Governer design. : RQV275...1175PA1101K

Governer no. : 0 421 815 982

Cust. part No. : CCEP 5133 A 66-193

Customer-spec. information

Customer : RVI

: MIDR 060226 M51 Motor

Power KW : 158.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

40 temp. °C 2.0 Tolerance °C

: 2 417 413 078 Overflow valve

Inlet press. bar : 2.5 0.1 Tolerance bar

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar 1.5 Tolerance bar

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar 1.0

Prestroke mm 5.00 : +- 0.05 Tolerance mm

: + 0.10test only

Rack travel in mm: 13.00 Tolerance mm : +- 0.50

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. 1

Beginning of delivery differende

betw. rack trav.

21.00 mm

and maximum rack

12.30 travel Difference ° CS 2.00

#### BASIC SETTING

Rated speed rpm 1175

Del. quantity

cm3/1000 strokes : 268.0

Tolerance cm3/1000 strokes		t Batad around any a FEO
CMS/ 1000 Strokes	: +- 1.0	+ Rated speed rpm : 550 + guide sleeve
Check tolerance		+ travel mm : 3.92
cm3/1000s.	: <b>←</b> 4.0	Tolerance mm : +- 0.20
Spreed		T Rated speed rpm : 1650
Tolerance		guide steeve
cm3/1000 strokes	: 5.0	† travel mm : 13.50
Check tolerance	<del></del>	Tolerance mm : + 0.50
cm3/1000s.	: 9.0	I
		GUIDE SLEEVE POSITION
Rated speed rpm	: 275	+ 2.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1
Rack travel in m	n · -7 30	+ Rated speed rpm : 1430
Tolerance mm		Rack travel in mm: 11.20
Del. quantity	3,125	+ Tolerance mm : + 2.00
cm3/1000 strokes	: 42.0	+
Tolerance	: +- 2.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes Check tolerance	2.0	T FULL LUAD DELIVERT AT FULL LUAD STOP
cm3/1000s.	: <b>←</b> 6.0	Rated speed rpm : 1175
Spreed		+ Aneroid pressure
Tolerance	: 8.0	+ hPa : 1600
cm3/1000 strokes Check tolerance	: 0.0	+ Del. quantity + cm3/1000 strokes : 268.0
cm3/1000s.	: 12.0	+ Tolerance
		+ cm3/1000 strokes : +- 1.0
(0) 0555510 05 51	LIFOTTON DUMO	+ Check tolerance
(B) SETTING OF IN	VIECTION PUMP	$+$ cm3/1000s. : $\leftarrow$ 4.0
WITH GOVERNOR		Spreed
		Spreed Tolerance cm3/1000 strokes : 5.0
		Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
WITH GOVERNOR  GUIDE SLEEVE TRAN	/EL	Spreed Tolerance cm3/1000 strokes : 5.0
GUIDE SLEEVE TRAN	/EL	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
WITH GOVERNOR  GUIDE SLEEVE TRAN	/EL	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
GUIDE SLEEVE TRAN	/EL : 275	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm	: 275 : 1.01 : + 0.10	Spreed Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm	/EL : 275 : 1.01	Spreed Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 9.0  RATED SPEED  control lever
GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm	/EL : 275 : 1.01 : + 0.10 : 1230 : 8.95	Spreed Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	/EL : 275 : 1.01 : + 0.10 : 1230	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 295.0 tolerance degree : + 4.0
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	/EL : 275 : 1.01 : + 0.10 : 1230 : 8.95 : + 0.10	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 295.0 tolerance degree : +- 4.0  rack travel mm : -1.00
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm Rated speed rpm Rated speed rpm	/EL : 275 : 1.01 : + 0.10 : 1230 : 8.95	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 295.0 tolerance degree : +- 4.0  rack travel mm : -1.00 Rated speed rpm : 1250
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	/EL : 275 : 1.01 : + 0.10 : 1230 : 8.95 : + 0.10	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 295.0 tolerance degree : +- 4.0  rack travel mm : -1.00
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	/EL : 275 : 1.01 : + 0.10 : 1230 : 8.95 : + 0.10 : 877	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 295.0 tolerance degree : +- 4.0  rack travel mm : -1.00 Rated speed rpm : 1250 Tolerance 1/min : +- 15  rack travel mm : -9.70
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	/EL : 275 : 1.01 : + 0.10 : 1230 : 8.95 : + 0.10 : 877 : 6.51 : + 0.20	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 295.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1250 Tolerance 1/min : + 15  rack travel mm : -9.70 Rated speed rpm : 1420
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	/EL : 275 : 1.01 : + 0.10 : 1230 : 8.95 : + 0.10 : 877 : 6.51 : + 0.20	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 295.0 tolerance degree : +- 4.0  rack travel mm : -1.00 Rated speed rpm : 1250 Tolerance 1/min : +- 15  rack travel mm : -9.70
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	/EL : 275 : 1.01 : + 0.10 : 1230 : 8.95 : + 0.10 : 877 : 6.51 : + 0.20	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 295.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1250 Tolerance 1/min : + 15  rack travel mm : -9.70 Rated speed rpm : 1420
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	/EL : 275 : 1.01 : + 0.10 : 1230 : 8.95 : + 0.10 : 877 : 6.51 : + 0.20 : 389	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 295.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1250 Tolerance 1/min : + 15  rack travel mm : -9.70 Rated speed rpm : 1420 Tolerance 1/min : + 5  rack travel mm : -13.20 Tolerance mm : -13.20 Tolerance mm : + 0.55
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	/EL : 275 : 1.01 : + 0.10 : 1230 : 8.95 : + 0.10 : 877 : 6.51 : + 0.20 : 389 : - 2.39 : + 0.20	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 295.0 tolerance degree : +- 4.0  rack travel mm : -1.00 Rated speed rpm : 1250 Tolerance 1/min : +- 15  rack travel mm : -9.70 Rated speed rpm : 1420 Tolerance 1/min : +- 5  rack travel mm : -13.20
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	/EL  : 275  : 1.01 : + 0.10  : 1230  : 8.95 : + 0.10  : 877  : 6.51 : ← 0.20 : 389 : 2.39	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 295.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1250 Tolerance 1/min : + 15  rack travel mm : -9.70 Rated speed rpm : 1420 Tolerance 1/min : + 5  rack travel mm : -13.20 Tolerance mm : -13.20 Tolerance mm : + 0.55
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	/EL : 275 : 1.01 : + 0.10 : 1230 : 8.95 : + 0.10 : 877 : 6.51 : + 0.20 : 389 : - 2.39 : + 0.20	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 295.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1250 Tolerance 1/min : + 15  rack travel mm : -9.70 Rated speed rpm : 1420 Tolerance 1/min : + 5  rack travel mm : -13.20 Tolerance mm : -13.20 Tolerance mm : + 0.55
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	/EL  : 275  : 1.01 : + 0.10  : 1230  : 8.95 : + 0.10  : 877  : 6.51 : + 0.20  : 389  : 2.39 : + 0.20  : 439	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 295.0 tolerance degree : +- 4.0  rack travel mm : -1.00 Rated speed rpm : 1250 Tolerance 1/min : +- 15  rack travel mm : -9.70 Rated speed rpm : 1420 Tolerance 1/min : +- 5  rack travel mm : -13.20 Tolerance mm : +- 0.55 Rated speed rpm : 1550

position degree tolerance degree	: +- 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : -7.30 : +- 0.10
Rated speed rpm	: 200
CRT mm max.	: < -6.40
Rated speed rpm	: 400
TORQUE CONTROL	
Rated speed rpm	: 1175
Rated speed rpm rack travel mm Tolerance mm	: 650 : −1.55 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 350 : -2.80 : + 0.25
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 1175 : 1600
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	500 -5.40 + 0.20
Rated speed rpm	: 1175
Pressure hPa rack travel mm Tolerance mm	: 320 : -4.70 : +- 0.20
Pressure hPa	: 560 : -2.95

Rated speed rpm	: < 240
Check speed 1/min	: < 260
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1600 : 650
Del. quantity cm3/1000 strokes	: 260.0
Tolerance cm3/1000 strokes Check tolerance	; <del></del>
cm3/1000s.	: +- 6.0
Aneroid pressure hPa	: -
Rated speed rpm Del. quantity	
cm3/1000 strokes Tolerance	
cm3/1000 strokes Check tolerance	
cm3/1000s.	: +- 4.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 1250
Rated speed rpm	: 1250 : + 15
Rated speed rpm Tolerance 1/min  STARTING FUEL DEL Del. quantity cm3/1000 strokes	: 1250 : + 15 IVERY
Rated speed rpm Tolerance 1/min  STARTING FUEL DEL Del. quantity	: 1250 : + 15 IVERY : 100.0
Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1250 : + 15 IVERY : 100.0
Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 1250 : + 15 IVERY : 100.0 : + 10.0
Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  LOW IDLE  Rated speed rpm rack travel mm Tolerance mm	: 1250 : + 15 IVERY : 100.0 : + 10.0
Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  LOW IDLE  Rated speed rpm rack travel mm	: 1250 : + 15 IVERY  : 100.0 : + 10.0 : + 14.0  : 275 : -7.30 : + 0.20
Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  LOW IDLE  Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes	: 1250 : + 15 IVERY  : 100.0 : + 10.0 : + 14.0  : 275 : -7.30 : + 0.20

Spreed

Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. :

8.0

12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 28.06.95 : ISO 4113

Combination No. : 0 402 946 011

Injection pump

Pump designation : PES6P120A320RS8028

EP type number

: 0 412 926 021

Governor

Governer design. : RQV275...1250PA1125K

Governer no.

: 0 421 815 981

Cust. part No.

: CCEP 5140A 66-205

Customer-spec. information Customer

: RVI

Motor

: MIDR 06.02.26L51

Power KW

: 132.0

### TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve

: 2 417 413 078

Inlet press. bar :

2.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

208.5

Tolerance bar

1.5

Test lines

: 1 680 750 008

Outside diameter :

6.0

x inside diameter: 2.0 600 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +-

Prestroke mm 5.00 Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm: 11.00 Tolerance mm : +- 0.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance : + 0.30

Check

tolerance 'NW : + 0.50

Start of delivery mark

1 Barrel no.

Beginning of delivery differende

betw. rack trav.

21.00

and maximum rack

travel

10.00 2.25

Difference ° CS

BASIC SETTING

Rated speed rpm 1250

Del. quantity

cm3/1000 strokes :

170.0

Tolerance cm3/1000 strokes	: + 1.0 ‡	Rated speed rpm : 550
Check tolerance cm3/1000s.	: + 4.0	guide sleeve travel mm : 3.92 Tolerance mm : +- 0.20
Spreed Tolerance cm3/1000 strokes	: 5.0	Rated speed rpm : 1650 guide sleeve travel mm : 13.50 Tolerance mm : +- 0.50
Check tolerance cm3/1000s.	: 9.0	
Rated speed rpm	: 325	GUIDE SLEEVE POSITION
Rack travel in m Tolerance mm Del. quantity cm3/1000 strokes	: + 0.20	Rated speed rpm : 1430  Rack travel in mm : 10.90  Tolerance mm : +- 2.00
Tolerance cm3/1000 strokes	: +- 2.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance cm3/1000s. Spreed Tolerance	: + 6.0	Rated speed rpm : 1250 Aneroid pressure hPa : 1600
cm3/1000 strokes Check tolerance	: 8.0	Del. quantity cm3/1000 strokes : 170.0
cm3/1000s.	: 12.0	Tolerance cm3/1000 strokes : +- 1.0
(B) SETTING OF IN	NJECTION PUMP	Check tolerance cm3/1000S. : + 4.0 Spreed Tolerance
GUIDE SLEEVE TRAN	/EL ±	cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
Rated speed rpm guide sleeve	: 275	
travel mm Tolerance mm	: 1.00 : + 0.15	RATED SPEED
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1355 : 10.10 : +- 0.10	control lever position degree : 296.0 tolerance degree : +- 4.0
Rated speed rpm guide sleeve travel mm	: 929	rack travel mm : -1.00 Rated speed rpm : 1345 Tolerance 1/min : +- 15
Tolerance mm	: + 0.20	rack travel mm : -8.60 Rated speed rpm : 1470
Rated speed rpm guide sleeve	: 390	Tolerance 1/min : +- 5
travel mm Tolerance mm	: 2.39 : + 0.20	rack travel mm : -12.10 Tolerance mm : + 0.55 Rated speed rpm : 1600
Rated speed rpm guide sleeve	: 440	
travel mm Tolerance mm	: 3.01 : + 0.20	LOW IDLE

control lever position degree tolerance degree	: 244.0 : + 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 325 : −6.60 : + 0.10
Rated speed rpm	: 200
CRT mm max.	: < -5.20
Rated speed rpm	: 360
TORQUE CONTROL	
Rated speed rpm	: 1250
Rated speed rpm rack travel mm Tolerance mm	: 650 : -1.10 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 350 : -1.70 : +- 0.25
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa Tolerance mm	: 1250 : 1600 : + 0.10
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	500 : -4.30 : + 0.20
Rated speed rpm	: 1250
Pressure hPa rack travel mm Tolerance mm	: 200 : -3.70 : + 0.20
Pressure hPa rack travel mm Tolerance mm	: 360 : -2.60 : + 0.05
START CUT-OUT	

Rated speed rpm	: < 240	
Check speed 1/min	: < 260	
FUEL DELIVERY CHA	RACTERISTICS	
Aneroid pressure		
hPa	: 1600	
Rated speed rpm	: 650	
Del. quantity	. 400.0	
cm3/1000 strokes	: 182.0	
Tolerance cm3/1000 strokes	: +- 3.0	
Check tolerance	: 3.0	
cm3/1000S.	: +- 6.0	
CIID7 10000:	• • •••	
Aneroid pressure		
hPa	: -	
Rated speed rpm	: 500	
Del. quantity		
cm3/1000 strokes	: 116.0	
Tolerance	. 4.0	
cm3/1000 strokes	: <b>←</b> 1.0	
Check tolerance	: + 4.0	
	: +- 4.0	
cm3/1000s.  BREAKAWAY		<del></del>
BREAKAWAY Rack travel in mm Rated speed rpm	: 1345	
BREAKAWAY Rack travel in mm Rated speed rpm Tolerance 1/min	: 1345 : + 15	
BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Del. quantity	: 1345 : + 15	
BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Del. quantity cm3/1000 strokes	: 1345 : + 15	
BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Del. quantity cm3/1000 strokes Tolerance	: 1345 : + 15 IVERY : 122.0	
BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1345 : + 15 IVERY : 122.0	
BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 1345 : + 15 IVERY : 122.0	
	: 1345 : ← 15 IVERY : 122.0 : ← 10.0	
BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1345 : + 15 IVERY  : 122.0 : ← 10.0 : + 14.0	
BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1345 : + 15 IVERY  : 122.0 : → 10.0 : + 14.0	
BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1345 : + 15 IVERY  : 122.0  : → 10.0  : + 14.0  : 325 : -6.60	
BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1345 : + 15 IVERY  : 122.0 : → 10.0 : + 14.0	
BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  LOW IDLE  Rated speed rpm rack travel mm Tolerance mm Del. quantity	: 1345 : + 15 IVERY  : 122.0  : → 10.0  : + 14.0  : 325 : -6.60 : + 0.20	
BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1345 : + 15 IVERY  : 122.0  : → 10.0  : + 14.0  : 325 : -6.60 : + 0.20	
BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  LOW IDLE  Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes	: 1345 : + 15 IVERY  : 122.0  : ← 10.0  : + 14.0  : 325 : -6.60 : + 0.20 : 41.0	

Check tolerance cm3/1000s. : +- 6.0

Spreed
Tolerance
cm3/1000 strokes :

8.0

Check tolerance cm3/1000s.

: 12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.06.95 Test oil : ISO 4113

Combination No. : 0 403 446 310

## Injection pump

Pump designation : PES6MW100/320RS1227Z

EP type number : 0 413 406 217

#### Governor

Governer design. : RQV325...1300MW126 Governer no. : 0 420 083 279

Cust. part No. : 1249952

Customer-spec. information

: DAF Customer Motor : NS133L Power KW : 133.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar 1.5

: 1 680 750 008 Test Lines

Outside diameter : 6.0

x inside diameter: 2.0 x length mm 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm 3.05 : + - 0.05Tolerance mm

test only : + 0.10

Rack travel in mm: 13.50 Tolerance mn: + 1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance "NW : + 0.75

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.85

Tolerance mm : **←** 0.05

Del. quantity

cm3/1000 strokes : 94.5

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. 3.0 : +-

Spreed

Tolerance

cm3/1000 strokes : 3.5

	+	Tolerance mm : + 0.50
Check tolerance	+	
cm3/1000s.	: 6.0	
	1	GUIDE SLEEVE POSITION
Rated speed rpm	: 325	
The second second second	1	Rated speed rpm : 1350
Rack travel in mm	: 4.50	
Tolerance mm	: + 0.10	Rack travel in mm : 16.50
Del. quantity	1	Tolerance mm : +- 1.30
cm3/1000 strokes	: 9.0	roter arice and
Tolerance		
cm3/1000 strokes	: + 2.0 I	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	· - 2.0	FOLL LOAD DELIVERY AT FULL COAD STOP
	: +- 4.5	Datas arread man a 1000
cm3/1000s.	: + 4.5	Rated speed rpm : 1000
Spreed	†	Aneroid pressure
Tolerance	. †	hPa : 1000
cm3/1000 strokes	: 3.5	Del. quantity
Check tolerance	+	cm3/1000 strokes : 94.5
cm3/1000s.	: 5.5	Tolerance
	+	cm3/1000 strokes : + 1.0
	Ì	Check tolerance
(B) SETTING OF INJ	JECTION PUMP	cm3/1000s. : + 3.0
WITH GOVERNOR		Spreed
	1	Tolerance
		cm3/1000 strokes : 3.5
GUIDE SLEEVE TRAVE	: <u> </u>	Check tolerance
GOIDE SECENE TRAVE	Ī	74466
Datad annual man	: 325	cm3/1000s. : 6.0
Rated speed rpm	: 325	
guide sleeve	†	
travel mm	: 1.67	RATED SPEED
Tolerance mm	: + 0.25	
	+	
Rated speed rpm	: 1334	control lever
guide sleeve	+	position degree : 122.0
travel mm	: 8.48	tolerance degree : +- 4.0
Tolerance mm	: + 0.25 +	•
	1	rack travel mm : 10.85
Rated speed rpm	: 872	Rated speed rpm : 1332
guide sleeve	1	Tolerance 1/min : + 8
travel mm	: 4.97	Total directivity
	: + 0.25	rack travel mm : 4.00
Tolerance mm	· + 0.2	
Data dame and ama	, <del>2</del> /2	Rated speed rpm : 1455
	: 363	Tolerance 1/min : + 15
guide sleeve	†	0.50
travel mm	: 2.05	rack travel mm : 0.50
Tolerance mm	: <b>+</b> 0.25 +	Tolerance mm : + 0.50
	+	Rated speed rpm : 1550
Rated speed rpm	: 413 +	
guide sleeve	+	
travel mm	: 2.50 <del> </del>	LOW IDLE
	: + 0.25 +	
	1	
Rated speed rpm	: 490	control lever
guide sleeve	·	position degree : 82.0
travel mm	: 2.93	tolerance degree : +- 4.0
	: + 0.25	cotte and degree 4.0
Tolerance mm	0.2	Tooting
	1/00	Testing:
	: 1600 +	0.4.4
guide sleeve	+	Rated speed rpm : 325_
travel mm	: 11.50 +	rack travel mm : 4.50
	·	

Tolerance mm : + - 0.10: 225 Rated speed rpm CRT mm min. :> 6.00TORQUE CONTROL 1000 Rated speed rpm rack travel mm : 11.85 Tolerance mm : + 0.05 Rated speed rpm : 1300 rack travel mm : 11.85 Tolerance mm : +- 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm 600 Pressure hPa 1000 rack travel mm 11.85 : + 0.05 Tolerance mm **MEASUREMENT** 290 Pressure hPa 600 Rated speed rpm rack travel mm 11.25 Tolerance mm : +- 0.05 Rated speed rpm : 600 Pressure hPa rack travel mm 9.90 Tolerance mm : + 0.10Pressure hPa 160 10.40 rack travel mm : + 0.10Tolerance mm FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 1000 1300 Rated speed rpm Del. quantity 92.0 cm3/1000 strokes : Tolerance cm3/1000 strokes : +-1.5 Check tolerance cm3/1000s. 4.0 Spreed

Tolerance 5.0 cm3/1000 strokes : Check tolerance cm3/1000s. 7.0 Aneroid pressure Rated speed rpm : 600 Del. quantity cm3/1000 strokes : 63.0 Tolerance cm3/1000 strokes : + 1.0Check tolerance cm3/1000s. 3.0 : +--BREAKAWAY Rack travel in mm: 10.85 Rated speed rpm : 1332 Tolerance 1/min : +-

## LOW IDLE

Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance	:	25 4.50 0.10 9.0
cm3/1000 strokes	: +-	2.0
Check tolerance cm3/1000s. Spreed	: ←	4.5
Tolerance cm3/1000 strokes Check tolerance	:	3.5
cm3/1000s.	:	5.5

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.06.95 Test oil : ISO 4113

Combination No. : 0 403 446 317

## Injection pump

Pump designation : PES6MW100/320RS1214

: -1

EP type number : 0 413 406 224

Governor

Governer design. : RQV275...1250MW115K

Governer no. : 0 420 083 994

Cust. part No.

Customer-spec. information Customer : RVI

Motor : MIDR 060226 W

Power KW : 151.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 033

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 4.25 Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm: 18.00 Tolerance mm: + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.50

Check

tolerance \*NW : +- 0.75

Start of delivery blocking

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 14.15

Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 118.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : + 3.0

	3
Spreed	
Tolerance	+ guide sleeve
cm3/1000 strokes : 3.5	
	+ Tolerance mm : +- 0.50
Check tolerance	
cm3/1000s. : 6.0	
	↓ GUIDE SLEEVE POSITION
Rated speed rpm : 275	+
•	+ Rated speed rpm : 1450
Rack travel in mm: -8.10	
Tolerance mm : $\leftarrow$ 0.20	+ Rack travel in mm : 11.00
Del. quantity	+ Tolerance mm : + 2.50
cm3/1000 strokes : 21.0	<del>}</del>
Tolerance	
cm3/1000 strokes : +- 2.0	+ FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	+
cm3/1000s. : +- 4.5	+ Rated speed rpm : 1250
Spreed	+ Aneroid pressure
Tolerance	+ hPa : 1000
cm3/1000 strokes : 3.5	
Check tolerance	+ cm3/1000 strokes : 118.0
cm3/1000s. : 5.0	+ Tolerance
	+ cm3/1000 strokes : + 1.0
	+ Check tolerance
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	+ Spreed
	+ Tolerance
GUIDE SLEEVE TRAVEL	+ Check tolerance
	+ cm3/1000s. : 6.0
Rated speed rpm : 275	†
guide sleeve	
travel mm : 1.00	+ RATED SPEED
	101125
Tolerance mm : + 0.25	+
Tolerance mm : +- 0.25	‡
Tolerance mm : + 0.25  Rated speed rpm : 1344	control lever
Tolerance mm : + 0.25  Rated speed rpm : 1344 guide sleeve	control lever position degree : 294.0
Tolerance mm : + 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99	control lever
Tolerance mm : + 0.25  Rated speed rpm : 1344 guide sleeve	control lever position degree : 294.0 tolerance degree : +- 4.0
Tolerance mm : + 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : + 0.25	control lever position degree : 294.0 tolerance degree : +- 4.0 rack travel mm : -1.00
Tolerance mm : + 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : + 0.25  Rated speed rpm : 924	control lever position degree : 294.0 tolerance degree : +- 4.0 rack travel mm : -1.00 Rated speed rpm : 1305
Tolerance mm : + 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : + 0.25  Rated speed rpm : 924 guide sleeve	control lever position degree : 294.0 tolerance degree : +- 4.0 rack travel mm : -1.00
Tolerance mm : +- 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : +- 0.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77	control lever position degree : 294.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1305 Tolerance 1/min : + 15
Tolerance mm : + 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : + 0.25  Rated speed rpm : 924 guide sleeve	control lever position degree : 294.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1305 Tolerance 1/min : + 15  rack travel mm : -10.10
Tolerance mm : +- 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : +- 0.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : +- 0.25	control lever position degree : 294.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1305 Tolerance 1/min : + 15  rack travel mm : -10.10 Rated speed rpm : 1465
Tolerance mm : + 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : + 0.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : + 0.25  Rated speed rpm : 390	control lever position degree : 294.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1305 Tolerance 1/min : + 15  rack travel mm : -10.10
Tolerance mm : + 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : + 0.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : + 0.25  Rated speed rpm : 390 guide sleeve	control lever position degree : 294.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1305 Tolerance 1/min : + 15  rack travel mm : -10.10 Rated speed rpm : 1465 Tolerance 1/min : + 5
Tolerance mm : + 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : + 0.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : + 0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39	control lever position degree : 294.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1305 Tolerance 1/min : + 15  rack travel mm : -10.10 Rated speed rpm : 1465 Tolerance 1/min : + 5  rack travel mm : -13.60
Tolerance mm : + 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : + 0.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : + 0.25  Rated speed rpm : 390 guide sleeve	control lever position degree : 294.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1305 Tolerance 1/min : + 15  rack travel mm : -10.10 Rated speed rpm : 1465 Tolerance 1/min : + 5  rack travel mm : -13.60 Tolerance mm : + 0.50
Rated speed rpm : 1344 guide steeve travel mm : 9.99 Tolerance mm : 924 guide steeve travel mm : 924 guide steeve travel mm : 6.77 Tolerance mm : 40.25  Rated speed rpm : 390 guide steeve travel mm : 2.39 Tolerance mm : 2.39 Tolerance mm : 40.25	control lever position degree : 294.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1305 Tolerance 1/min : + 15  rack travel mm : -10.10 Rated speed rpm : 1465 Tolerance 1/min : + 5  rack travel mm : -13.60
Rated speed rpm : 1344 guide steeve travel mm : 9.99 Tolerance mm : 40.25  Rated speed rpm : 924 guide steeve travel mm : 6.77 Tolerance mm : 40.25  Rated speed rpm : 390 guide steeve travel mm : 2.39 Tolerance mm : 2.39 Tolerance mm : 440	control lever position degree : 294.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1305 Tolerance 1/min : + 15  rack travel mm : -10.10 Rated speed rpm : 1465 Tolerance 1/min : + 5  rack travel mm : -13.60 Tolerance mm : + 0.50
Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : 40.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : 40.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : 440 guide sleeve	control lever position degree : 294.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1305 Tolerance 1/min : + 15  rack travel mm : -10.10 Rated speed rpm : 1465 Tolerance 1/min : + 5  rack travel mm : -13.60 Tolerance mm : + 0.50 Rated speed rpm : 1600
Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : 40.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : 40.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : 440 guide sleeve travel mm : 440 guide sleeve travel mm : 3.01	control lever position degree : 294.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1305 Tolerance 1/min : + 15  rack travel mm : -10.10 Rated speed rpm : 1465 Tolerance 1/min : + 5  rack travel mm : -13.60 Tolerance mm : + 0.50
Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : 40.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : 40.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : 440 guide sleeve	control lever position degree : 294.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1305 Tolerance 1/min : + 15  rack travel mm : -10.10 Rated speed rpm : 1465 Tolerance 1/min : + 5  rack travel mm : -13.60 Tolerance mm : + 0.50 Rated speed rpm : 1600
Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : + 0.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : + 0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : + 0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : + 0.25	control lever position degree : 294.0 tolerance degree : +- 4.0  rack travel mm : -1.00 Rated speed rpm : 1305 Tolerance 1/min : +- 15  rack travel mm : -10.10 Rated speed rpm : 1465 Tolerance 1/min : +- 5  rack travel mm : -13.60 Tolerance mm : +- 0.50 Rated speed rpm : 1600  LOW IDLE
Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : 40.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : 40.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : 2.39 Tolerance mm : 440 guide sleeve travel mm : 440 guide sleeve travel mm : 3.01 Tolerance mm : 425  Rated speed rpm : 3.01 Tolerance mm : 550	control lever position degree : 294.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1305 Tolerance 1/min : + 15  rack travel mm : -10.10 Rated speed rpm : 1465 Tolerance 1/min : + 5  rack travel mm : -13.60 Tolerance mm : + 0.50 Rated speed rpm : 1600  LOW IDLE  control lever
Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : 40.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : 40.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : 440 guide sleeve travel mm : 440 guide sleeve travel mm : 3.01 Tolerance mm : 550 guide sleeve	control lever position degree : 294.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1305 Tolerance 1/min : + 15  rack travel mm : -10.10 Rated speed rpm : 1465 Tolerance 1/min : + 5  rack travel mm : -13.60 Tolerance mm : + 0.50 Rated speed rpm : 1600  LOW IDLE  control lever position degree : 244.0
Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : 40.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : 40.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : 2.39 Tolerance mm : 440 guide sleeve travel mm : 440 guide sleeve travel mm : 3.01 Tolerance mm : 425  Rated speed rpm : 3.01 Tolerance mm : 550	control lever position degree : 294.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1305 Tolerance 1/min : + 15  rack travel mm : -10.10 Rated speed rpm : 1465 Tolerance 1/min : + 5  rack travel mm : -13.60 Tolerance mm : + 0.50 Rated speed rpm : 1600  LOW IDLE  control lever

Rated speed rpm rack travel mm Tolerance mm	: 275 : -8.10 : + 0.10
Rated speed rpm	: 200
CRT mm min.	: > -7.50
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1250 : 14.15 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 700 : −0.80 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 700 : −5.50 : ← 0.10
Rated speed rom rack travel mm Tolerance mm	: 350 : -1.60 : + 0.40
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa Tolerance mm	: 1250 : 1000 : +- 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 1250 : -3.00 : +- 0.20
Rated speed rpm	: 1250
Pressure hPa rack travel mm	: 200 : -2.35 : + 0.15
Tolerance mm	: 300

Rated speed rpm	: < 230
Check speed 1/min	: < 245
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure	4000
hPa Rated speed rpm	: 1000 : 700
Del. quantity cm3/1000 strokes	: 116.0
Tolerance cm3/1000 strokes	: +- 1.5
Check tolerance cm3/1000s. Spreed	: +- 4.0
Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000S.	: 7.0
Aneroid pressure hPa	: 1000
Rated speed rpm Del. quantity	: 700
cm3/1000 strokes Tolerance	: 60.0
cm3/1000 strokes Check tolerance	: <del>←</del> 4.0
cm3/1000s.	: <del>←</del> 7.5
Aneroid pressure hPa	
Rated speed rpm	: 500
Del. quantity cm3/1000 strokes	: 79.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: +- 3.0
BREAKAWAY	
Rack travel in mm	
Rated speed rpm Tolerance 1/min	: +- 15
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100
rack travel mm Tolerance mm	: 20.25 : +- 0.75
Del. quantity cm3/1000 strokes	: 95.0

Tolerance cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 13.0

LOW IDLE

Rated speed rpm 275 -8.10 rack travel mm Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 21.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance 3.5 cm3/1000 strokes : Check tolerance cm3/1000s. 5.0

End of test specification sheet

E20

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.06.95 : ISO 4113 Test oil

Combination No. : 0 403 446 318

Injection pump

Pump designation : PES6MW100/320RS1214

: -1

: 0 413 406 224 EP type number

Governor

Governer design. : RQV275...1250MW115

: -1K

: 0 420 083 992 Governer no.

Cust. part No. :

Customer-spec. information

Customer : RVI

: MIDR 060226 V Motor

: 129.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 2 417 413 033

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : +- 0.05 Tolerance mm

test only :  $\leftarrow$  0.10

Rack travel in mm: 18.00 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.75

Start of delivery blocking

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 13.15 Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 112.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 3.0	travel mm : 4.01 Tolerance mm : +- 0.25
Spreed	+ Occidence and
Tolerance	+ Rated speed rpm : 1650
cm3/1000 strokes : 3.5	+ guide sleeve
	+ travel mm : 13.50
Check tolerance	+ Tolerance mm : + 0.50
cm3/1000s. : 6.0	+
D	
Rated speed rpm : 275	+ GUIDE SLEEVE POSITION
Dook tooyol in my . 7.50	Dated aread man a 1/50
Rack travel in mm: -7.50	Rated speed rpm : 1450
Tolerance mm : + 0.20	Total travel in the 11 00
Del. quantity	Rack travel in mm: 11.00
cm3/1000 strokes : 22.0	Tolerance mm : +- 2.50
Tolerance	<b>T</b>
cm3/1000 strokes : +- 2.0	CHILL LOAD DELTHERY AT FULL LOAD CTOD
Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : +- 4.5	Total anad ann a 1250
Spreed	Rated speed rpm : 1250
Tolerance	Aneroid pressure
cm3/1000 strokes : 3.5	+ hPa : 1000
Check tolerance cm3/1000s. : 5.0	Del. quantity
cm3/1000s. : 5.0	+ cm3/1000 strokes : 112.0
	+ Tolerance
(D) CETTING OF THIS COTTON DUMP	+ cm3/1000 strokes : + 1.0
(B) SETTING OF INJECTION PUMP	Check tolerance
WITH GOVERNOR	+ cm3/1000s. : + 3.0
	+ Spreed
CUTATE OF FOUR TOWNER	+ Tolerance
GUIDE SLEEVE TRAVEL	Tolerance cm3/1000 strokes : 3.5
	Tolerance : 3.5 Check tolerance
Rated speed rpm : 275	Tolerance cm3/1000 strokes : 3.5
Rated speed rpm : 275 guide sleeve	Tolerance : 3.5 Check tolerance
Rated speed rpm : 275 guide sleeve travel mm : 1.00	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0
Rated speed rpm : 275 guide sleeve	Tolerance : 3.5 Check tolerance
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25 Rated speed rpm : 1314	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  RATED SPEED
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25 Rated speed rpm : 1314 guide sleeve	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  RATED SPEED  control lever
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  RATED SPEED  control lever position degree : 292.0
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25 Rated speed rpm : 1314 guide sleeve	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  RATED SPEED  control lever
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  RATED SPEED  control lever position degree : 292.0 tolerance degree : 4.0
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25  Rated speed rpm : 912	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  RATED SPEED  control lever position degree : 292.0 tolerance degree : 4.0  rack travel mm : -1.00
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25  Rated speed rpm : 912 guide sleeve	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  RATED SPEED  control lever position degree : 292.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1300
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25  Rated speed rpm : 912 guide sleeve travel mm : 6.70	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  RATED SPEED  control lever position degree : 292.0 tolerance degree : 4.0  rack travel mm : -1.00
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25  Rated speed rpm : 912 guide sleeve	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000S. : 6.0  RATED SPEED  control lever position degree : 292.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1300 Tolerance 1/min : + 15
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25  Rated speed rpm : 912 guide sleeve travel mm : 6.70 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  RATED SPEED  control lever position degree : 292.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1300 Tolerance 1/min : + 15  rack travel mm : -9.10
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25  Rated speed rpm : 912 guide sleeve travel mm : 6.70 Tolerance mm : + 0.25  Rated speed rpm : 390	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000S. : 6.0  RATED SPEED  control lever position degree : 292.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1300 Tolerance 1/min : + 15
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25  Rated speed rpm : 912 guide sleeve travel mm : 6.70 Tolerance mm : + 0.25  Rated speed rpm : 390 guide sleeve guide sleeve : 390 guide sleeve	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  RATED SPEED  control lever position degree : 292.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1300 Tolerance 1/min : + 15  rack travel mm : -9.10 Rated speed rpm : 1455
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25  Rated speed rpm : 912 guide sleeve travel mm : 6.70 Tolerance mm : + 0.25  Rated speed rpm : 390 guide sleeve guide sleeve : 390 guide sleeve	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  RATED SPEED  control lever position degree : 292.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1300 Tolerance 1/min : + 15  rack travel mm : -9.10 Rated speed rpm : 1455 Tolerance 1/min : + 5  rack travel mm : -12.60
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : +- 0.25  Rated speed rpm : 912 guide sleeve travel mm : 6.70 Tolerance mm : +- 0.25  Rated speed rpm : 390 guide sleeve travel mm : 390 guide sleeve travel mm : 2.39	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  RATED SPEED  control lever position degree : 292.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1300 Tolerance 1/min : + 15  rack travel mm : -9.10 Rated speed rpm : 1455 Tolerance 1/min : + 5  rack travel mm : -12.60
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25  Rated speed rpm : 912 guide sleeve travel mm : 6.70 Tolerance mm : + 0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  RATED SPEED  control lever position degree : 292.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1300 Tolerance 1/min : + 15  rack travel mm : -9.10 Rated speed rpm : 1455 Tolerance 1/min : + 5  rack travel mm : -12.60
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25  Rated speed rpm : 912 guide sleeve travel mm : 6.70 Tolerance mm : + 0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : + 0.25  Rated speed rpm : 2.39 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  RATED SPEED  control lever position degree : 292.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1300 Tolerance 1/min : + 15  rack travel mm : -9.10 Rated speed rpm : 1455 Tolerance 1/min : + 5
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25  Rated speed rpm : 912 guide sleeve travel mm : 6.70 Tolerance mm : + 0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  RATED SPEED  control lever position degree : 292.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1300 Tolerance 1/min : + 15  rack travel mm : -9.10 Rated speed rpm : 1455 Tolerance 1/min : + 5  rack travel mm : -12.60
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25  Rated speed rpm : 912 guide sleeve travel mm : 6.70 Tolerance mm : + 0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : + 0.25  Rated speed rpm : 2.39 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  RATED SPEED  control lever position degree : 292.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1300 Tolerance 1/min : + 15  rack travel mm : -9.10 Rated speed rpm : 1455 Tolerance 1/min : + 5  rack travel mm : -12.60
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25  Rated speed rpm : 912 guide sleeve travel mm : 6.70 Tolerance mm : + 0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : + 0.25  Rated speed rpm : 2.39 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  RATED SPEED  control lever position degree : 292.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1300 Tolerance 1/min : + 15  rack travel mm : -9.10 Rated speed rpm : 1455 Tolerance 1/min : + 5  rack travel mm : -12.60 Tolerance mm : + 0.50 Rated speed rpm : 1600
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25  Rated speed rpm : 912 guide sleeve travel mm : 6.70 Tolerance mm : + 0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : + 0.25  Rated speed rpm : 2.39 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  RATED SPEED  control lever position degree : 292.0 tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1300 Tolerance 1/min : + 15  rack travel mm : -9.10 Rated speed rpm : 1455 Tolerance 1/min : + 5  rack travel mm : -12.60 Tolerance mm : + 0.50 Rated speed rpm : 1600

control lever position degree tolerance degree Testing:	: 242.0 : ← 4.0
100011191	
Rated speed rpm rack travel mm Tolerance mm	: 275 : -7.50 : + 0.10
Rated speed rpm	: 200
CRT mm min.	: < -6.90
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1250 : 13.15 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 700 : −0.90 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 700 : −4.50 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa Tolerance mm	: 1250 : 1000 : ← 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 1250 : -1.90 : + 0.20
Rated speed rpm	: 1250
Pressure hPa rack travel mm Tolerance mm	: 120 : -1.40 : +- 0.15
Pressure hPa	

Tolerance mm	: + 0.05
START CUT-OUT	
Rated speed rpm Check	: < 230
speed 1/min	: < 245
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	: 1000
Rated speed rpm Del. quantity	: 700
cm3/1000 strokes Tolerance	: 109.0
cm3/1000 strokes Check tolerance	: +- 1.5
cm3/1000s. Spreed	: +- 4.0
Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 7.0
Aneroid pressure	: 1000
Rated speed rpm Del. quantity	: 700
cm3/1000 strokes Tolerance	: 65.0
cm3/1000 strokes Check tolerance	: +- 4.0
cm3/1000s.	: +- 7.5
Aneroid pressure hPa	:
Rated speed rpm Del. quantity	: 1250
cm3/1000 strokes Tolerance	
cm3/1000 strokes Check tolerance cm3/1000s.	: <del></del>
	3.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	
STARTING FUEL DELI	IVERY
Rated speed rpm	: 100

rack travel mm	:	20.25
Tolerance mm	: +-	0.75
Del. quantity		
cm3/1000 strokes	:	95.0
Tolerance		
cm3/1000 strokes	: +-	10.0
Check tolerance		
cm3/1000s.	: +-	13.0

# LOW IDLE

Rated speed rpm rack travel mm Tolerance mm	: -	275 -7.50 0.20
Del. quantity cm3/1000 strokes	:	22.0
Tolerance		2.0
cm3/1000 strokes Check tolerance	; +	2.0
cm3/1000s.	: +-	4.5
Spreed Tolerance		
cm3/1000 strokes	:	3.5
Check tolerance cm3/1000s.	:	5 <b>.0</b>

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 22.06.95 Edition : ISO 4113 Test oil

Combination No. : 0 403 476 123

Injection pump

Pump designation : PES6MW100/320RS1227Z

EP type number : 0 413 406 217

Governor

Governer design. : RSV325...1300MWDA350

Governer no. : 0 420 085 200

Cust. part No. : 1249935

Customer-spec. information : DAF Customer : NS133L

Motor Power KW : 133.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar 1.5 Tolerance bar

: 1 680 750 008 Test lines

Outside diameter : 6.0

x inside diameter: 2.0 x length mm 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : +- 1.0

Prestroke mm 3.05 : + 0.05Tolerance mm

: + 0.10test only

Rack travel in mm : 13.50 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

: +- 0.75 tolerance °NW

BASIC SETTING

Rated speed rpm 1000

11.85 Rack travel in mm: Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 94.5

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. 3.0 : +--

Spreed

Tolerance

cm3/1000 strokes : 3.5

	1
Check tolerance	t control lever
cm3/1000s. : 6.0	position degree : 102.0
	tolerance degree : + 4.0
Rated speed rpm : 325	+
Dools through the man of 7 ED	+ rack travel mm : 10.85
Rack travel in mm : 4.50 Tolerance mm : + 0.10	+ Rated speed rpm : 1332 + Tolerance 1/min : +- 8
Del. quantity	T Total ance 17 min : 1 = 0
cm3/1000 strokes : 9.0	+ rack travel mm : 4.00
Tolerance	Rated speed rpm : 1425
cm3/1000 strokes : + 2.0	+ Tolerance 1/min : + 15
Check tolerance	1.00
cm3/1000S. : +- 4.5 Spreed	+ rack travel mm : 1.00 + Tolerance mm : + 0.70
Tolerance	Rated speed rpm : 1550
cm3/1000 strokes : 3.5	+ Naced Speed (pill : 1550
Check tolerance	+ rack travel mm : 4.00
cm3/1000s. : 5.5	+ Rated speed rpm : 1455
	+
(B) SETTING OF INJECTION PUMP	LOW IDLE
WITH GOVERNOR	I LOW IDEE
7211 Good (100)	+
	+ control lever
	+ position degree : 70.0
GUIDE SLEEVE POSITION	tolerance degree : + 4.0
Rated speed rpm : 800	T Setting point w/out bumper spring
nated opeca i più	+
Rack travel in mm: 0.65	+ Rated speed rpm : 325
Tolerance mm : +- 0 35	† rack travel mm : 4.00
	Tanting
governor spring pre-tension	† Testing:
click setting x : 4.00	Rated speed rpm : 325
The state of the s	+ rack travel mm : 4.50
	+ Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	+
Rated speed rpm : 1000	+ rack travel mm : 2.00 + Rated speed rpm : 485
Rated speed rpm : 1000 Aneroid pressure	+ Rated speed rpm : 485 + Tolerance 1/min : + 35
hPa : 1000	Total dilectivity 1
Del. quantity	
cm3/1000 strokes : 94.5	+ TORQUE CONTROL
Tolerance	+
cm3/1000 strokes : + 1.0	+ Rated speed rpm : 1000
Check tolerance cm3/1000s. : +- 3.0	+ rack travel mm : 11.85 + Tolerance mm : + 0.05
Spreed 5.0	T TOLET OFFICE HAIF . TO U.U.
Tolerance	Rated speed rpm : 1300
cm3/1000 strokes : 3.5	+ rack travel mm : 11.85
Check tolerance	Tolerance mm : + 0.10
cm3/1000s. : 6.0	†
	ANEDOTO/ALTITUDE
RATED SPEED	+ ANEROID/ALTITUDE + COMPENSATOR TEST
MAILU SELLU	+
	+
	1 a

SETTING

Rated speed rpm	:	600
Pressure hPa	:	1000
rack travel mm	:	11.85
Tolerance mm	: -	<b> 0.0</b> 5
Tolerance mm	: -	<b> 0.0</b> 5

### **MEASUREMENT**

•		290
:		600
:		11.25
:	+-	0.05
	:	•

Rated	speed	rpm	:	600
-------	-------	-----	---	-----

Pressure hPa	:	_
rack travel mm	:	9.90
Tolerance mm	: +-	0.10

Pressure hPa	:	160
rack travel mm	:	10.40
Tolerance mm	: +	- 0.10

## FUEL DELIVERY CHARACTERISTICS

Aneroid p	ressure
-----------	---------

hPa	:	1000
Rated speed rpm	:	1300
Del. quantity		
-7/4000	_	00

cm3/1000 strokes :

92.0 Tolerance

cm3/1000 strokes : +-1.5 Check tolerance

cm3/1000s. 4.0 Spreed

Tolerance

cm3/1000 strokes : 5.0 Check tolerance

cm3/1000s. 7.0

Aneroid pressure

Rated speed rpm 600 Del. quantity cm3/1000 strokes :

63.0 Tolerance

cm3/1000 strokes 1.0

Check tolerance

cm3/1000s. : +--3.0

## BREAKAWAY

Rack travel in mm	:	10.85
Rated speed rpm	:	1332
Tolerance 1/min	:	<b>←</b> 8

## LOW IDLE

Rated speed rpm rack travel mm Tolerance mm	: +-	325 4.50 0.10
Del. quantity cm3/1000 strokes Tolerance	:	9.0
cm3/1000 strokes	: +-	2.0
Check tolerance cm3/1000S. Spreed	: +-	4.5
Tolerance cm3/1000 strokes	:	3.5
Check tolerance cm3/1000s.	:	5.5

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 27.07.95 Edition : ISO 4113 Test oil

Combination No. : 0 403 486 110

## Injection pump

Pump designation : PES6MW100/321RS1192

: -1

: 0 413 406 242 EP type number

Governor

Governer design. : RSV300...1300MW0A802

: -1

: 0 420 085 132 Governer no.

: 3-7493 Cust. part No.

Customer-spec. information

Customer : MAN : D0826LE40 Motor

Power KW : 199.0

## TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar :

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar : + 1.5 Tolerance bar

: 1 680 750 008 Test lines

Outside diameter : 6.0 x inside diameter: 2.0 x length mm 600 :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 3.55 : + - 0.05Tolerance mm

: + 0.10test only

Rack travel in mm: 10.50 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300 : +- 0.50

Check

Tolerance

: + 0.75tolerance °NW

Start of delivery mark

Barrel no. 1

BASIC SETTING

Rated speed rpm 1300 :

Rack travel in mm: 13.05 Tolerance mm : **←** 0.05

Del. quantity

cm3/1000 strokes : 145.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance cm3/1000s.

Spreed +	RATED SPEED
cm3/1000 strokes : 4.0	RATED SPEED
CIID, 1000 311 0KES . 4.0	
Check tolerance	control lever
cm3/1000s. : 7.5	position degree : 118.0
	tolerance degree : +- 4.0
Rated speed rpm : 300	42.00
Rack travel in mm: 4.80	rack travel mm : 12.00 Rated speed rpm : 1355
Tolerance mm : + 0.20	Tolerance 1/min : + 5
Del. quantity	rocci dibe in min
cm3/1000 strokes : 15.0	rack travel mm : 4.00
Tolerance	Rated speed rpm : 1475
cm3/1000 strokes : + 2.0 +	Tolerance 1/min : +- 15
Check tolerance	4.00
cm3/1000s. : + 4.5	rack travel mm : 1.00
Spreed + Tolerance +	Tolerance mm : + 0.70 Rated speed rpm : 1650
cm3/1000 strokes : 3.5	nated speed thin : 1000
Check tolerance	
cm3/1000s. : 5.5	LOW IDLE
+	
(D) CETTING OF THECTTON DUMD	control lever
(B) SETTING OF INJECTION PUMP +	position degree : 83.0
WITH GOVERNOR	tolerance degree : +- 4.0
1	totoranio dogreto i i i i i i i i i i i i i i i i i i i
	Testing:
GUIDE SLEEVE POSITION +	
Dated around over a 2000	Rated speed rpm : 300
Rated speed rpm : 800	rack travel mm : 4.80 Tolerance mm : +- 0.10
Rack travel in mm: 0.65	Total disca mail
Tolerance mm : + 0.35	
+	CRT mm min. : > 19.00
governor saring +	
pre-tension +	TARALE CANTRAL
click setting $x : 5.50$	TORQUE CONTROL
	Rated speed rpm : 1300
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 13.05
+	Tolerance mm : + 0.05
Rated speed rpm : 1300	202
Aneroid pressure	Rated speed rpm : 800
hPa : - + Del. quantity +	rack travel mm : 13.05 Tolerance mm : +- 0.10
cm3/1000 strokes : 145.0	Total area inii
Tolerance +	Rated speed rpm : 500
cm3/1000 strokes : + 1.0 +	rack travel mm : 13.05
Check tolerance	Tolerance mm : $\leftarrow$ 0.10
cm3/1000s. : + 4.0 +	
Spreed	
Tolerance + cm3/1000 strokes : 4.0 +	
Check tolerance	FUEL DELIVERY CHARACTERISTICS
cm3/1000s. : 7.5	
+	Aneroid pressure
+	hPa :

Rated speed rpm	: 800
Del. quantity	
cm3/1000 strokes Tolerance	: 154.0
cm3/1000 strokes	: +- 2.0
Check tolerance	
cm3/1000s. Spreed	: <b>←</b> 5.0
Tolerance	
cm3/1000 strokes Check tolerance	: 6.0
cm3/1000s.	: 9.0
Aneroid pressure	•
Rated speed rpm	: - : 500
Del. quantity	4/7.0
cm3/1000 strokes Tolerance	: 147.0
cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000s.	: <del>+-</del> 5.0
CIIDA I DODS.	. +- 7.0
BREAKAWAY	
Rack travel in mm	n: 12.00
Rated speed rpm	: 1355 _
Tolonopeo 1/min	• 4 5
Tolerance 1/min	: ← 5
Tolerance 1/min	: ∻- 5
STARTING FUEL DEL	.IVERY
STARTING FUEL DEL	.IVERY : 100
STARTING FUEL DEL Rated speed rpm rack travel mm	.IVERY : 100 : 20.00
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity	: 100 : 20.00 : + 1.00
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes	.IVERY : 100 : 20.00
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: 100 : 20.00 : + 1.00 : 135.0
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 100 : 20.00 : + 1.00 : 135.0 : + 5.0
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 100 : 20.00 : + 1.00 : 135.0
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 100 : 20.00 : + 1.00 : 135.0 : + 5.0
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 100 : 20.00 : + 1.00 : 135.0 : + 5.0
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 100 : 20.00 : + 1.00 : 135.0 : + 5.0
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 20.00 : + 1.00 : 135.0 : + 5.0 : + 8.0
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 20.00 : + 1.00 : 135.0 : + 5.0
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  LOW IDLE Rated speed rpm rack travel mm Tolerance mm	: 100 : 20.00 : + 1.00 : 135.0 : + 5.0 : + 8.0
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  LOW IDLE Rated speed rpm rack travel mm Tolerance mm Del. quantity	: 100 : 20.00 : + 1.00 : 135.0 : + 5.0 : + 8.0 : 4.80 : + 0.20
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  LOW IDLE Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes	: 100 : 20.00 : + 1.00 : 135.0 : + 5.0 : + 8.0
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  LOW IDLE Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 100 : 20.00 : + 1.00 : 135.0 : + 5.0 : + 8.0 : 4.80 : + 0.20
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  LOW IDLE Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 100 : 20.00 : + 1.00 : 135.0 : + 5.0 : + 8.0 : + 8.0 : + 0.20 : 15.0 : + 2.0
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  LOW IDLE Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 100 : 20.00 : + 1.00 : 135.0 : + 5.0 : + 8.0 : + 8.0

Tolerance : 3.5 Check tolerance cm3/1000s. : 5.5

End of test specification sheet

F02

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.01.95 Edition : ISO 4113 Test oil

Combination No. : 0 401 840 777

Injection pump

Pump designation : PE12P120A520/4LS3840

: -1

: 0 411 820 731 EP type number

Governor

Governer design. : RQV250...900PA1198

: 0 421 814 117 Governer no.

Cust. part No.

Customer-spec. information : DAEWOO Customer : D2842LE Motor

Power KW : 440.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

40 temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

208.5 bar Tolerance bar 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0 x inside diameter : 3.0 x length mm 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +-1.0

Prestroke mm 4.25 : + 0.05Tolerance mm

: + 0.10test only

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order

: 12- 1- 5- 9- 8 : - 3- 4- 11- 10 : - 2- 6- 7

: 0-45-60-105-120 Phasing

: -165-180-225-240

: -285-300-345

: + 0.30Tolerance

Check

tolerance 'NW : +- 0.50

Start of delivery mark

Barrel no. 12

BASIC SETTING

Rated speed rpm 650

Rack travel in mm : 11.40 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 196.0

Tolerance

1.0 cm3/1000 strokes : +-

F03

Check tolerance cm3/1000s. : +- 4.0	control lever
Spreed Tolerance	<pre>position degree : 83.0 tolerance degree : + 4.0</pre>
cm3/1000 strokes : 6.0	t control lever position degree : 118.0
Check tolerance cm3/1000s. : 10.0	tolerance degree : +- 4.0
Rated speed rpm : 250	+ rack travel mm : 10.40 + Rated speed rpm : 945 + Tolerance 1/min : +- 5
Rack travel in mm : 6.90 Tolerance mm : + 0.30	rack travel mm : 4.00
Del. quantity	Rated speed rpm : 1055
cm3/1000 strokes : 25.0 Tolerance	Tolerance 1/min : +- 15
cm3/1000 strokes : + 3.0	rack travel mm : 0.50
Check tolerance : +- 6.0	Tolerance mm : +- 0.50 Rated speed rpm : 1150
Spreed Tolerance	
cm3/1000 strokes : 8.0 Check tolerance	LOW IDLE
cm3/1000s. : 12.0	+
	† control lever † position degree : 65.0
(B) SETTING OF INJECTION PUMP	tolerance degree : +- 4.0
WITH GOVERNOR	+ - control lever
	position degree : 30.0
CHARL OF THE PACTITAN	tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	Testing:
Rated speed rpm : 1060	Dated aread area 250
Rack travel in mm: 10.40	+ Rated speed rpm : 250 - rack travel mm : 6.90
Tolerance mm : + 1.30	Tolerance mm : +- 0.10
	+ Rated speed rpm : 150
FULL LOAD DELIVERY AT FULL LOAD STOP	† CRT mm min. :> 7.80
Rated speed rpm : 650	1
Aneroid pressure	Rated speed rpm : 350
Del. quantity -	
cm3/1000 strokes : 196.0 - Tolerance -	TORQUE CONTROL
cm3/1000 strokes : + 1.0 -	Rated speed rpm : 650
Check tolerance	rack travel mm : 11.40
cm3/1000s. : +- 4.0 Spreed	Tolerance mm : +- 0.05
Tolerance	Rated speed rpm : 900
cm3/1000 strokes : 6.0	Rated speed rpm : 900 rack travel mm : 11.40 Tolerance mm : +- 0.10
Check tolerance cm3/1000s. : 10.0	roterance mm : +- U.TU
RATED SPEED	START CUT-OUT
4	<b>}</b>

170 Rated speed rpm : < Check speed 1/min : < 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 900 Rated speed rpm Del. quantity

cm3/1000 strokes : 184.0

Tolerance

cm3/1000 strokes 3.0

Check tolerance cm3/1000s.

6.0

**BREAKAWAY** 

Rack travel in mm: 10.40 Rated speed rpm 945 Tolerance 1/min

STARTING FUEL DELIVERY

100 Rated speed rpm

Del. quantity cm3/1000 strokes : 310.0

Tolerance

cm3/1000 strokes : +- 20.0

Check tolerance

cm3/1000s. : +- 24.0

LOW IDLE

Rated speed rpm 250 6.90 rack travel mm 0.30 Tolerance mm Del. quantity cm3/1000 strokes :

25.0

Tolerance

cm3/1000 strokes 3.0

Check tolerance

cm3/1000s. 6.0

Spreed Tolerance

8.0 cm3/1000 strokes

Check tolerance

12.0 cm3/1000s.

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.07.95 Test oil : ISO 4113

Combination No. : 0 401 846 933

### Injection pump

Pump designation : PE6P110A320RS3260 EP type number : 0 411 816 775

#### Governor

Governer design. : RQ250/1050PA969 Governer no. : 0 421 801 538

Cust. part No.

Customer—spec. information
Customer : HAEP

Motor : X6130 NA

# TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.65 Tolerance mm : + 0.05

test only  $: \leftarrow 0.10$ 

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.30

Check

tolerance NW : + 0.50

Start of delivery mark

Barrel no. : 1

#### BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 12.15
Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 131.0

Tolerance cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.5

	4	•
Spreed		Rated speed rpm : 1200
Tolerance	_	guide sleeve
cm3/1000 strokes :	4.0	- travel mm : 11.50
cmorrood serones .	1.0	Tolerance mm : + 0.50
Check tolerance		
cm3/1000s. :	7.5	Rated speed rpm : 830
CIID/ 10003	7.5	guide sleeve
5-4-dd	55 <b>0</b> T	
Rated speed rpm :	250	travel mm : 8.15
5-4-4	7.00	Tolerance mm : + 0.10
Rack travel in mm :	7.80	
	+ 0.20	
Del. quantity	<b></b> • †	GUIDE SLEEVE POSITION
cm3/1000 strokes :	17.5	·
Tolerance	<del>†</del>	Rated speed rpm : 500
cm3/1000 strokes :	+ 2.5	
Check tolerance	+	Rack travel in mm : 13.40
cm3/1000s. :	<b>←</b> 5.0 ‡	Tolerance mm : + 0.80
Spreed	+	•
Tolerance	+	
cm3/1000 strokes :	4.5	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	<del>-</del>	
cm3/1000s. :	7.5	Aneroid pressure
	4	hPa : -
	1	Del. quantity
(B) SETTING OF INJECT	TTON PUMP	cm3/1000 strokes : 131.0
WITH GOVERNOR	1	Tolerance
WITH GOVERNOR	1	cm3/1000 strokes : + 1.0
		Check tolerance
GUIDE SLEEVE TRAVEL	I	cm3/1000s. : +- 3.5
GUIDE SEEEVE TRAVEL	Ţ	
Detect amond man	250	Spreed
Rated speed rpm :	<i>D</i> ()	Tolerance
guide sleeve	7 70	cm3/1000 strokes : 4.0
travel mm :	3.79	Check tolerance
Tolerance mm :	+ 0.10	cm3/1000s. : 7.5
	1400	
Rated speed rpm :	1100 +	
guide steeve		RATED SPEED
travel mm :	8.47	
Tolerance mm :	+ 0.10 +	tolerance degree : +- 4.0
	<del>†</del>	
Rated speed rpm :	1035	rack travel mm : 10.40
guide sleeve	+	Rated speed rpm : 1093
travel mm :	8.20 +	Tolerance 1/min : +- 8
Tolerance mm :	+ 0.10 +	
	+	rack travel mm : 4.00
Rated speed rpm :	796	Rated speed rpm : 1125
guide sleeve	+	Tolerance 1/min : +- 15
travel mm :	8.05	
Tolerance mm :	+ 0.10	rack travel mm : 0.90
	1	Tolerance mm : + 0.90
Rated speed rpm :	319	Rated speed rpm : 1250
guide sleeve		· · · · · · · · · · · · · · · · · · ·
travel mm :	7.27	
	+ 0.10	LOW IDLE
, 500, 61100 (18)	1	
Rated speed rpm :	380	
guide sleeve	<u> </u>	control lever
travel mm :	8.00	position degree : 77.0
Tolerance mm :	+ 0.10 <del>T</del>	tolerance degree : +- 4.0
roterance num :	'- 0.10 T	toterance degree . The 4.0

# Testing:

Rated speed rpm rack travel mm Tolerance mm	: : +-	250 7.80 0.10
rack travel mm	:	2.00

# Rated speed rpm : 100

CRT mm min.	:	>	9.30
-------------	---	---	------

# TORQUE CONTROL

Rated speed rpm	:	600
rack travel mm	:	12.15
Tolerance mm	: +	- 0.05

Rated speed rpm	:	1035
rack travel mm	:	11.40
Tolerance mm	: -	<b>⊢</b> 0.15

# FUEL DELIVERY CHARACTERISTICS

# Aneroid pressure

hPa		:	-
Del.	quantity		

cm3/1000 strokes : 132.5

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : +- 6.0

#### BREAKAWAY

Rack travel in mm : 10.40
Rated speed rpm : 1093
Tolerance 1/min : +- 8

# STARTING FUEL DELIVERY

Rated speed rpm	:	100
Del. quantity cm3/1000 strokes	:	190.0
Tolerance cm3/1000 strokes	: +-	10.0
Check tolerance cm3/1000s.	: +-	14.0

# LOW IDLE

Rated speed rpm rack travel mm Tolerance mm Del. quantity	: 250 : 7.80 : + 0.20	
cm3/1000 strokes	: 17.5	
Tolerance		
cm3/1000 strokes	: <b>←</b> 2.5	
Check tolerance cm3/1000s. Spreed	: <del>-</del> 5.0	
Tolerance		
cm3/1000 strokes Check tolerance	: 4.5	
cm3/1000s.	: 7.5	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 20.06.95 Edition : ISO 4113 Test oil

Combination No. : 0 401 846 956

Injection pump

Pump designation : PE6P12OA32ORS3196 EP type number : 0 411 826 763

Governor

Governer design. : RQV200...1100PA729

: 0 421 813 950 Governer no.

Cust. part No. : 1333954

Customer-spec. information Customer : SCANIA Motor : DSC9 10

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

40 temp. °C Tolerance °C 2.0

: 1 417 413 025 Overflow valve

Inlet press. bar : 2.5 : +-Tolerance bar

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

251.5 bar : + 1.5 Tolerance bar

Test Lines : 1 680 750 008

Outside diameter : 6.0

2.0 x inside diameter : 600 x length mm

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

5.05 Prestroke mm Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

: + 0.30Tolerance

Check

: + 0.50tolerance °NW

Start of delivery mark

1 Barrel no. :

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 10.55 : +- 0.05 Tolerance mm

Del. quantity +	
cm3/1000 strokes : 133.0	RATED SPEED
Tolerance + cm3/1000 strokes : + 1.0 +	
Charle to Language	control lever
Check tolerance cm3/1000s. : + 4.0	position degree : 61.0 tolerance degree : +- 4.0
Spreed	control lever
Tolerance	position degree : 116.0
cm3/1000 strokes : 8.0	tolerance degree : +- 4.0
Check tolerance +	rack travel mm : 9.50
cm3/1000s. : 12.0 +	Rated speed rpm : 1145
· · · · · · · · · · · · · · · · · ·	Tolerance 1/min : +- 5
Rated speed rpm : 250	rack travel mm : 4.00
Rack travel in mm: 4.70	Rated speed rpm : 1250
Tolerance mm : + 0.30	Tolerance 1/min : +- 15
Del. quantity	rocerance minimi.
cm3/1000 strokes : 16.0	rack travel mm : 0.50
Tolerance +	Tolerance mm : +- 0.50
cm $3/1000$ strokes : $\leftarrow$ 3.0 $+$	Rated speed rpm : 1350
Spreed +	
Tolerance +	
cm3/1000 strokes : 4.0	LOW IDLE
Check tolerance + cm3/1000s. : 8.0 +	
cm3/1000s. : 8.0 +	control lever
	position degree : 61.0
(B) SETTING OF INJECTION PUMP	tolerance degree : +- 4.0
WITH GOVERNOR +	
+	control lever
+	position degree : 9.0
	tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	Tookings
Rated speed rpm : 1120	Testing:
Aateu speed i piii . 1120	Rated speed rpm : 250
Rack travel in mm: 16.50	rack travel mm : 4.70
Tolerance mm : + 1.30 +	Tolerance mm : + 0.10
+	
+	rack travel mm : 2.00
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 350
Poted around our a 700	Tolerance 1/min : +- 30
Rated speed rpm : 700 +	Rated speed rpm : 150
hPa : -	Rated speed (pill : 150
Del. quantity	CRT mm min. :> 5.80
cm3/1000 strokes : 133.0	
Tolerance	
cm3/1000 strokes : + 1.0	TORQUE CONTROL
Check tolerance +	
cm3/1000s. : + 4.0	Rated speed rpm : 1100
Spreed	rack travel mm : 10.55
Tolerance + cm3/1000 strokes : 8.0 +	Tolerance mm : + 0.05
cm3/1000 strokes : 8.0 +	
cm3/1000S. : 12.0	
T. T. T. T. T. T. T. T. T. T. T. T. T. T	

### ANEROID/ALTITUDE COMPENSATOR TEST

### SETTING

Rated speed rpm 500 Pressure hPa 900 10.55 rack travel mm : + 0.05Tolerance mm

### **MEASUREMENT**

Pressure hPa 500 Rated speed rpm rack travel mm 10.00 : +- 0.20 Tolerance mm

500 Rated speed rpm

Pressure hPa 350 rack travel mm 10.35 : : **←** 0.05 Tolerance mm

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 1100 Rated speed rpm Del. quantity

cm3/1000 strokes : 132.0

Tolerance

cm3/1000 strokes : +-4.0 Check tolerance

cm3/1000s. 6.0

Aneroid pressure

hPa Rated speed rpm 500

Del. quantity cm3/1000 strokes : 116.0

Tolerance

cm3/1000 strokes 1.0

Check tolerance

cm3/1000s. 4.0

#### **BREAKAWAY**

Rack travel in mm: 9.50 1145 Rated speed rpm : Tolerance 1/min

#### STARTING FUEL DELIVERY

100 Rated speed rpm rack travel mm 10.00 Tolerance mm : + 0.20Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes :  $\leftarrow$  10.0 Check tolerance cm3/1000s. : + 14.0

### LOW IDLE

Rated speed rpm 250 4.70 rack travel mm 0.30 Tolerance mm Del. quantity cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : +-3.0 Spreed Tolerance cm3/1000 strokes 4.0 Check tolerance cm3/1000s. 8.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W4D0/...

Edition : 21.07.95 Test oil : ISO 4113

Combination No. : 0 401 846 972

Injection pump

Pump designation : PE6P110A320RS3302Y EP type number : 0 411 816 790

Governor

Governer design. : RQ300/1000PA1012-1 Governer no. : 0 421 801 648

Cust. part No. : 1253697

Customer—spec. information Customer : DAF Motor : LT 160 L Power KW : 160.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp.  $^{\circ}$ C : 40 Tolerance  $^{\circ}$ C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.75
Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 13.00Tolerance mm :  $\leftarrow 0.50$ 

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.30

Check

tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

#### BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 13.05
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 142.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

•

Check tolerance cm3/1000s. : + 3.5	guide sleeve travel mm : 11.50 Tolerance mm : +- 0.50
Spreed	
Tolerance + cm3/1000 strokes : 4.0 +	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : 7.5	Rated speed rpm : 600
Rated speed rpm : 300 +	Rack travel in mm : 20.00 Tolerance mm : + 0.80
Rack travel in mm: 7.50 +	
Rack travel in mm: 7.50 + Tolerance mm: + 0.20 + Del. quantity +	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : 30.0	Rated speed rpm : 850 Aneroid pressure
cm3/1000 strokes : +- 2.5 +- Check tolerance +-	hPa : - Del. quantity
cm3/1000s. : + 5.0 + 5.0 + 5.0	cm3/1000 strokes : 142.0 Tolerance
Tolerance + cm3/1000 strokes : 8.0 +	cm3/1000 strokes : +- 1.0 Check tolerance
Check tolerance cm3/1000s. : 11.0	cm3/1000s. : +- 3.5 Spreed
(D) SETTING OF INJECTION DUMP	Tolerance cm3/1000 strokes : 4.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Check tolerance cm3/1000S. : 7.5
GUIDE SLEEVE TRAVEL	RATED SPEED
Rated speed rpm : 300	control lever
guide sleeve +	control lever  position degree : 99.0
guide sleeve +	control lever position degree : 99.0 tolerance degree : +- 4.0
guide sleeve + travel mm : 2.08 +	position degree : 99.0 tolerance degree : + 4.0 rack travel mm : 12.05 Rated speed rpm : 1052
guide sleeve travel mm : 2.08 Tolerance mm : + 0.10  Rated speed rpm : 1060 guide sleeve travel mm : 6.36	position degree : 99.0 tolerance degree : + 4.0 rack travel mm : 12.05
guide sleeve travel mm : 2.08 Tolerance mm : + 0.10  Rated speed rpm : 1060 guide sleeve	position degree : 99.0 tolerance degree : + 4.0 rack travel mm : 12.05 Rated speed rpm : 1052 Tolerance 1/min : + 8
guide sleeve travel mm : 2.08 Tolerance mm : + 0.10  Rated speed rpm : 1060 guide sleeve travel mm : 6.36 Tolerance mm : + 0.10  Rated speed rpm : 1000	position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 12.05 Rated speed rpm : 1052 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1120
guide sleeve travel mm : 2.08 Tolerance mm : + 0.10  Rated speed rpm : 1060 guide sleeve travel mm : 6.36 Tolerance mm : + 0.10  Rated speed rpm : 1000 guide sleeve travel mm : 6.00	position degree : 99.0 tolerance degree : + 4.0 rack travel mm : 12.05 Rated speed rpm : 1052 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1120 Tolerance 1/min : + 15
guide sleeve travel mm : 2.08 Tolerance mm : + 0.10  Rated speed rpm : 1060 guide sleeve travel mm : 6.36 Tolerance mm : + 0.10  Rated speed rpm : 1000 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10	position degree : 99.0 tolerance degree : + 4.0 rack travel mm : 12.05 Rated speed rpm : 1052 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1120 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75
guide sleeve travel mm : 2.08 Tolerance mm : + 0.10  Rated speed rpm : 1060 guide sleeve travel mm : 6.36 Tolerance mm : + 0.10  Rated speed rpm : 1000 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 372 guide sleeve	position degree : 99.0 tolerance degree : + 4.0 rack travel mm : 12.05 Rated speed rpm : 1052 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1120 Tolerance 1/min : + 15 rack travel mm : 0.75
guide sleeve travel mm : 2.08 Tolerance mm : + 0.10  Rated speed rpm : 1060 guide sleeve travel mm : 6.36 Tolerance mm : + 0.10  Rated speed rpm : 1000 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 372 guide sleeve travel mm : 5.03	position degree : 99.0 tolerance degree : + 4.0 rack travel mm : 12.05 Rated speed rpm : 1052 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1120 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1300
guide sleeve travel mm : 2.08 Tolerance mm : + 0.10  Rated speed rpm : 1060 guide sleeve travel mm : 6.36 Tolerance mm : + 0.10  Rated speed rpm : 1000 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 372 guide sleeve travel mm : 5.03 Tolerance mm : + 0.10	position degree : 99.0 tolerance degree : + 4.0 rack travel mm : 12.05 Rated speed rpm : 1052 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1120 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75
guide sleeve travel mm : 2.08 Tolerance mm : + 0.10  Rated speed rpm : 1060 guide sleeve travel mm : 6.36 Tolerance mm : + 0.10  Rated speed rpm : 1000 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 372 guide sleeve travel mm : 5.03 Tolerance mm : + 0.10  Rated speed rpm : 440 guide sleeve	position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 12.05 Rated speed rpm : 1052 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1120 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : 0.75 Rated speed rpm : 1300  LOW IDLE  control lever
guide sleeve travel mm : 2.08 Tolerance mm : + 0.10  Rated speed rpm : 1060 guide sleeve travel mm : 6.36 Tolerance mm : + 0.10  Rated speed rpm : 1000 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 372 guide sleeve travel mm : 5.03 Tolerance mm : + 0.10  Rated speed rpm : 440	position degree : 99.0 tolerance degree : + 4.0 rack travel mm : 12.05 Rated speed rpm : 1052 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1120 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1300 LOW IDLE
guide sleeve travel mm : 2.08 Tolerance mm : + 0.10  Rated speed rpm : 1060 guide sleeve travel mm : 6.36 Tolerance mm : + 0.10  Rated speed rpm : 1000 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 372 guide sleeve travel mm : 5.03 Tolerance mm : + 0.10  Rated speed rpm : 440 guide sleeve travel mm : 6.00	position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 12.05 Rated speed rpm : 1052 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1120 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1300  LOW IDLE  control lever position degree : 78.0

Rated speed rpm	: 300
rack travel mm	: 7.50
Tolerance mm	: ← 0.10
rack travel mm	: 2.50
Rated speed rpm	: 370
Tolerance 1/min	: <del>←</del> 20
Rated speed rpm	: 200
CRT mm min.	: > 11.00
TORQUE CONTROL	
Rated speed rpm	: 850
rack travel mm	
Tolerance mm	: 13.05 : +- 0.05
Rated speed rpm	: 1000
rack travel mm	: 13.05
Tolerance mm	: +- 0.10
ANEDOTO /AL TITLES	<u> </u>
ANEROID/ALTITUDE COMPENSATOR TEST	
COMPENSATOR TEST	
SETTING	
Rated speed rpm	: 600
Pressure hPa	: 600 : 1000
rack travel mm	: 13.05 : + 0.05
Tolerance mm	: + 0.05
MEASUREMENT	
Pressure hPa	:
Rated speed rpm	: 600
rack travel mm Tolerance mm	: 11.70 : +- 0.10
Rated speed rpm	: 600
Pressure hPa	: 360_
rack travel mm	: 12.75
Tolerance mm	: +- 0.05
Pressure hPa	: 270 : 12.10
rack travel mm Tolerance mm	: 12.10 : + 0.10
roterance min	0.10
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure	
hPa	:

Del. quantity cm3/1000 strokes : 109.5 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. 3.5 BREAKAWAY Rack travel in mm: 12.0 Rated speed rpm: 1052 12.05 Tolerance 1/min : +-STARTING FUEL DELIVERY Rated speed rpm : 100 20.25 rack travel mm Tolerance mm : +- 0.75 Del. quantity cm3/1000 strokes : 350.0 Tolerance cm3/1000 strokes : + 20.0Check tolerance cm3/1000s. : + 23.0LOW IDLE 300 Rated speed rpm : 7.50 rack travel mm Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 30.0 Tolerance cm3/1000 strokes :  $\leftarrow$  2.5 Check tolerance cm3/1000s. 5.0 : +-Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 11.0 : End of test specification sheet

Rated speed rpm :

600

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 09.06.95 Edition Test oil : ISO 4113

Combination No. : 0 401 848 828

Injection pump

Pump designation : PE8P12OA520/4L83850

EP type number : 0 411 828 723

Governor

Governer design. : RQ300/900PA1230 Governer no. : 0 421 801 792

Cust. part No. :

Customer-spec. information Customer : DAEWOO Motor : D2848LE

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 600 x Length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Tolerance mm : 4.05

test only : + 0.10

Rack travel in mm: 10.50 Tolerance mm :  $\leftarrow$  1.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : + - 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. :

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm: 11.90 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 208.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 4.0	<pre>guide sleeve travei mm : 11.50 Tolerance mm : + 0.50</pre>
Spreed Tolerance cm3/1000 strokes : 6.0	GUIDE SLEEVE POSITION
EIID7 (BOD SCIORES . C.D	T GOIDE SEEEVE POSITION
Check tolerance cm3/1000s. : 10.0	Rated speed rpm : 600
Rated speed rpm : 300	Rack travel in mm: 20.00 Tolerance mm: + 0.80
Rack travel in mm : 7.40 Tolerance mm : + 0.30	FULL LOAD DELIVERY AT FULL LOAD STOP
⊅el. quantity cm3/1000 strokes : 42.0 Tolerance	Rated speed rpm : 850 Aneroid pressure
cm3/1900 strokes : +- 3.0 Check tolerance	+ hPa : - Del. quantity
cm3/1000s. : +- 6.0 Spreed Tolerance	+ cm3/1000 strokes : 208.0 + Tolerance + cm3/1000 strokes : + 1.0
cm3/1000 strokes : 6.0 Check tolerance	Check tolerance cm3/1000s. : +- 4.0
cm3/1000s. : 10.0	+ Spreed + Tolerance + cm3/1000 strokes : 6.0
(B) SETTING OF INJECTION PUPP WITH GOVERNOR	+ Check tolerance + cm3/1000s. : 10.0
GUIDE SLEEVE TRAVEL	RATED SPEED
Rated speed rpm : 300 guide sleeve	T control lever
travel mm : 1.44 Tolerance mm : + 0.10	<pre>position degree : 32.0 tolerance degree : +- 4.0</pre>
Rated speed rpm : 932 guide sleeve	control lever position degree : 94.0
travel mm : 6.37 Tolerance mm : + 0.10	tolerance degree : + 4.0
Rated speed rpm : 880 guide sleeve	rack travel mm : 10.90 Rated speed rpm : 925 Tolerance 1/min : +- 5
travel mm : 6.00 Tolerance mm : + 0.10	rack travel mm : 4.00 Rated speed rpm : 970
Rated speed rpm : 433 guide sleeve	Tolerance 1/min : +- 15
travel mm : 4.94 Tolerance mm : + 0.10	rack travel mm : 0.50 Tolerance mm : +- 0.50
Rated speed rpm : 510 guide sleeve	Rated speed rpm : 1100
travel mm : 6.00 Tolerance mm : + 0.10	LOW IDLE
Rated speed rpm : 1050	control lever position degree : 75.0

tolerance degree	: + 4.0	
control lever position degree tolerance degree	: 13.0 : + 4.0	
Testing:		
Rated speed rpm rack travel mm Tolerance mm	: 300 : 7.40 : ← 0.10	
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 420 : + 20	
Rated speed rpm	: 200	
CRT mm min.	: > 9.80	
TORQUE CONTROL		
Rated speed rpm rack travel mm Tolerance mm	: 850 : 11.90 : ← 0.05	
Rated speed rpm rack travel mm Tolerance mm	: 650 : 11.90 : ← 0.10	
START CUT-OUT		
Rated speed rpm Check	: < 220	
speed 1/min	: < 240	
FUEL DELIVERY CHARACTERISTICS		
Aneroid pressure	•	
hPa Rated speed rpm	: 650	
Del. quantity cm3/1000 strokes	: 211.0	
Tolerance cm3/1000 strokes	: <del></del>	
Check tolerance		
cm3/1000s.	: +- 6.0	
BREAKAWAY		
Rack travel in mm	: 10.90	

STARTING FUEL DEL	.IVERY
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	_
LOW IDLE	
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes	: 300 : 7.40 : ← 0.30 : 42.0
Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 3.0 : + 6.0
Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 6.0 : 10.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 09.06.95 Test oil : ISO 4113

Combination No. : 0 401 849 757

Injection pump

Pump designation : PE10P120A520/4LS3863

EP type number : 0 411 897 711

Governor

Governer design. : RQ300/900PA1230 Governer no. : 0 421 801 792

Cust. part No.

Customer—spec. information Customer : DAEWOO Motor : D2840LE

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 100 Tolerance L/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5 Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.05 Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 10-9-4-1-8

: - 7- 6- 3- 5 : - 2

Phasing : 0-45-72-117-144

: -189-216-261-288

: -333 Tolerance : + 0.30

Check

tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 10

#### BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 12.90 Tolerance mm : + 0.05

Del. quantity	+ guide sleeve
cm3/1000 strokes : 208.0	travel mm : 6.00 Tolerance mm : + 0.10
Tolerance cm3/1000 strokes : +- 1.0	Rated speed rpm : 1050
Check tolerance	+ guide sleeve + travel mm : 11.50
cm3/1000s. : + 4.0	Tolerance mm : + 0.50
Spreed	-
Tolerance	+ GUIDE SLEEVE POSITION
cm3/1000 strokes : 6.0	Rated speed rpm : 600
Check tolerance	1 20.00
cm3/1000s. : 10.0	+ Rack travel in mm : 20.00 + Tolerance mm : + 0.80
Rated speed rpm : 300	Toteldice in 1. F. U.SU
Rack travel in mm : 7.00	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm : +- 0.30	T TOLL LOAD DELIVERY AT TOLL LOAD STOP
Del. quantity	Rated speed rpm : 850
cm3/1000 strokes : 24.0	+ Aneroid pressure
Tolerance	+ hPa : -
cm3/1000 strokes : +- 3.0	+ Del. quantity
Check tolerance cm3/1000s. : +- 6.0	cm3/1000 strokes : 208.0 Tolerance
Spreed	+ cm3/1000 strokes : +- 1.0
Tolerance	- Check tolerance
cm3/1000 strokes : 7.0	+ cm3/1000s. : + 4.0
Check tolerance	+ Spreed
cm3/1000s. : 11.0	+ Tolerance
	+ cm3/1000 strokes : 6.0 + Check tolerance
(B) SETTING OF INJECTION PUMP	+ cm3/1000s. : 10.0
WITH GOVERNOR	+
	RATED SPEED
GUIDE SLEEVE TRAVEL	‡
Rated speed rpm : 300	+ control lever
guide sleeve	position degree : 32.0
travel mm : 1.44	tolerance degree : +- 4.0
Tolerance mm : + 0.10	t control lever
Rated speed rpm : 932	position degree : 94.0
guide steeve	tolerance degree : +- 4.0
travel mm : 6.37	+
Tolerance mm : + 0.10	+ rack travel mm : 11.90
200	+ Rated speed rpm : 925 + Tolerance 1/min : + 5
Rated speed rpm : 880 guide sleeve	Tolerance 1/min : +- 5
travel mm : 6.00	Track travel mm : 4.00
Tolerance mm : + 0.10	Rated speed rpm : 970
	Tolerance 1/min : + 15
Rated speed rpm : 433	†
guide sleeve	rack travel mm : 0.50
travel mm : 4.94 Tolerance mm : +- 0.10	Tolerance mm : +- 0.50 Rated speed rpm : 1100
foreignice mail . The U.TU	T nated speed (pill . 1100
Rated speed rpm : 510	+

#### LOW IDLE

control lever position degree 74.0 tolerance degree : + 4.0

control lever

position degree 12.0 tolerance degree : +-4.0

# Testing:

Rated speed rpm 300 7.00 rack travel mm Tolerance mm 0.10

2.00 rack travel mm Rated speed rpm 415 Tolerance 1/min 20

200 Rated speed rpm

CRT mm min. 9.40

#### TORQUE CONTROL

Rated speed rpm 850 12.90 rack travel mm Tolerance mm : +- 0.05

650 Rated speed rpm 12.90 rack travel mm Tolerance mm : + 0.10

### START CUT-OUT

Rated speed rpm 220 : < Check

speed 1/min

240 : <

# FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 650 Rated speed rom Del. quantity

cm3/1000 strokes : 212.0

Tolerance

3.0 cm3/1000 strokes

Check tolerance

cm3/1000s. 6.0

### **BREAKAWAY**

Rack travel in mm: 11.90 Rated speed rpm 5 Tolerance 1/min

# STARTING FUEL DELIVERY

Del. quantity

cm3/1000 strokes : 200.0

Tolerance

cm3/1000 strokes : + 20.0

Check tolerance

Rated speed rpm

cm3/1000s. : + 24.0

300

### LOW IDLE

7.00 rack travel mm 0.30 Tolerance mm Del. quantity cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes 3.0 : +-Check tolerance cm3/1000s. 6.0 : +-Spreed Tolerance 7.0 cm3/1000 strokes : Check tolerance cm3/1000s. 11.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 03.07.95 : ISO 4113 Test oil

Combination No. : 0 401 849 758

Injection pump

Pump designation : PE10P110A320LS3864 EP type number : 0 411 819 713

Governor

Governer design. : RQ250/1150PA1255 : 0 421 801 797 Governer no.

Cust. part No.

Customer-spec. information : DAEWOO Customer : V2-10NA Motor

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : + 2.0Tolerance °C

: 1 417 413 025 Overflow valve

Inlet press. bar : 1.5 Tolerance bar :+ 0.1

Overflow quantity

: 110 min. l/h Tolerance l/h: + 10.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 : **←** 1.5 Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 600 x length mm

### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 4.00 : +- 0.05 Tolerance mm

test only : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

: 10-9-4-1-8 Firing order

: - 7- 6- 3- 5 : - 2

: 0-45-72-117-144 Phasing

: -189-216-261-288

: -333

Tolerance : + - 0.30

Check

tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 10

#### BASIC SETTING

1150 Rated speed rpm :

Rack travel in mm: 11.50

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 125.0

	+ Tolerance mm : + 0.10
Tolerance	+ toterance nan . + 0.10
cm3/1000 strokes : + 1.0	Rated speed rpm : 1340 guide sleeve
Check tolerance	travel mm : 11.50
cm3/1000s. : +- 4.0	+ Tolerance mm : + 0.50
4.0	1
Spreed	
Tolerance	+ GUIDE SLEEVE POSITION
cm3/1000 strokes : 6.0	+
	+ Rated speed rpm : 1100
Check tolerance	+
cm3/1000s. : 10.0	+ Rack travel in mm: 15.50
Datasi annual annual annual annual annual annual annual annual annual annual annual annual annual annual annual	+ Tolerance mm : + 1.30
Rated speed rpm : 250	T
Rack travel in mm: 9.00	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm : + 0.30	T TOLL LOAD DELIVERY AT FOLL LOAD STOP
Del. quantity	+ Rated speed rpm : 1150
cm3/1000 strokes : 40.0	+ Aneroid pressure
Tolerance	+ hPa : -
cm3/1000 strokes : +- 3.0	Del. quantity
Check tolerance	+ cm3/1000 strokes : 125.0
cm3/1000s. : +- 6.0	+ Tolerance
Spreed	+ cm3/1000 strokes : + 1.0
Tolerance	+ Check tolerance
cm3/1000 strokes : 7.0	+ cm3/1000s. : + 4.0
Check tolerance	Spreed
cm3/1000s. : 11.0	+ Tolerance
	+ cm3/1000 strokes : 6.0 + Check tolerance
(B) SETTING OF INJECTION PUMP	+ cm3/10C0s. : 10.0
WITH GOVERNOR	10.0
WZIII GOTEMON	
	+ RATED SPEED
GUIDE SLEEVE TRAVEL	†
Rated speed rpm : 250	+ control lever
guide sleeve	+ position degree : 36.0
travel mm : 1.38	+ tolerance degree : + 4.0
Tolerance mm : + 0.20	+ cotti ance degree +15
	+ control lever
Rated speed rpm : 1234	+ position degree : 98.0
guide sleeve	
travel mm : 7.50	+ tolerance degree : + 4.0
	+
Tolerance mm : + 0.15	rack travel mm : 10.50
Tolerance mm : +- 0.15	rack travel mm : 10.50 Rated speed rpm : 1202
Tolerance mm : + 0.15  Rated speed rpm : 1150	rack travel mm : 10.50
Tolerance mm : +- 0.15  Rated speed rpm : 1150 guide sleeve	rack travel mm : 10.50 Rated speed rpm : 1202 Tolerance 1/min : + 5
Tolerance mm : + 0.15  Rated speed rpm : 1150 guide sleeve travel mm : 7.00	rack travel mm : 10.50 Rated speed rpm : 1202 Tolerance 1/min : + 5  rack travel mm : 4.00
Tolerance mm : +- 0.15  Rated speed rpm : 1150 guide sleeve	rack travel mm : 10.50 Rated speed rpm : 1202 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1265
Tolerance mm : + 0.15  Rated speed rpm : 1150 guide sleeve travel mm : 7.00 Tolerance mm : + 0.10	rack travel mm : 10.50 Rated speed rpm : 1202 Tolerance 1/min : + 5  rack travel mm : 4.00
Tolerance mm : + 0.15  Rated speed rpm : 1150 guide sleeve travel mm : 7.00 Tolerance mm : + 0.10  Rated speed rpm : 401	rack travel mm : 10.50 Rated speed rpm : 1202 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1265 Tolerance 1/min : + 15
Tolerance mm : + 0.15  Rated speed rpm : 1150 guide sleeve travel mm : 7.00 Tolerance mm : + 0.10	rack travel mm : 10.50 Rated speed rpm : 1202 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1265
Tolerance mm : + 0.15  Rated speed rpm : 1150 guide sleeve travel mm : 7.00 Tolerance mm : + 0.10  Rated speed rpm : 401 guide sleeve	rack travel mm : 10.50 Rated speed rpm : 1202 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1265 Tolerance 1/min : + 15  rack travel mm : 0.50
Tolerance mm : + 0.15  Rated speed rpm : 1150 guide sleeve travel mm : 7.00 Tolerance mm : + 0.10  Rated speed rpm : 401 guide sleeve travel mm : 4.83 Tolerance mm : + 0.10	rack travel mm : 10.50 Rated speed rpm : 1202 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1265 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50
Tolerance mm : + 0.15  Rated speed rpm : 1150 guide sleeve travel mm : 7.00 Tolerance mm : + 0.10  Rated speed rpm : 401 guide sleeve travel mm : 4.83 Tolerance mm : + 0.10  Rated speed rpm : 510	rack travel mm : 10.50 Rated speed rpm : 1202 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1265 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1350
Tolerance mm : + 0.15  Rated speed rpm : 1150 guide sleeve travel mm : 7.00 Tolerance mm : + 0.10  Rated speed rpm : 401 guide sleeve travel mm : 4.83 Tolerance mm : + 0.10  Rated speed rpm : 510 guide sleeve	rack travel mm : 10.50 Rated speed rpm : 1202 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1265 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50
Tolerance mm : + 0.15  Rated speed rpm : 1150 guide sleeve travel mm : 7.00 Tolerance mm : + 0.10  Rated speed rpm : 401 guide sleeve travel mm : 4.83 Tolerance mm : + 0.10  Rated speed rpm : 510	rack travel mm : 10.50 Rated speed rpm : 1202 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1265 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1350

control lever position degree tolerance degree	: 75.0 : +- 4.0	
control lever position degree tolerance degree	: 13.0 : + 4.0	
Testing:		
Rated speed rpm rack travel mm Tolerance mm	: 250 : 7.30 : +- 0.10	
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 390 : +- 20	
Rated speed rpm	: 150	
CRT mm min.	: > 8.60	
TORQUE CONTROL		
Rated speed rpm rack travel mm Tolerance mm	: 1150 : 11.50 : ← 0.05	
Rated speed rpm rack travel mm Tolerance mm	: 650 : 11.50 : + 0.10	
FUEL DELIVERY CHARACTERISTICS		
Aneroid pressure hPa	: -	
Rated speed rpm Del, quantity	: 650	
cm3/1000 strokes Tolerance	: 125.0	
cm3/1000 strokes	: <b>←</b> 3.0	
Check tolerance cm3/1000s.	: <b>←</b> 6.0	
BREAKAWAY		
Rack travel in mm Rated speed rpm Tolerance 1/min	: 1202	

Del. quantity cm3/1000 strokes	:	160.0
Tolerance cm3/1000 strokes	: +-	20.0
Check tolerance cm3/1000S.	: +-	24.0

LOW	IDLE

Rated speed rpm rack travel mm Tolerance mm Del. quantity	: : : +-	250 9.00 0.30	
cm3/1000 strokes	:	40.0	
Tolerance			
cm3/1000 strokes	: +-	3.0	
Check tolerance cm3/1000s. Spreed	: +-	6.0	
Tolerance	_	7.0	
cm3/1000 strokes Check tolerance	:	7.0	
cm3/1000s.	:	11.0	

End of test specification sheet

STARTING FUEL DELIVERY

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 06.09.95 Test oil : ISO 4113

Combination No. : 0 401 876 312

Injection pump

Pump designation : PE6P110A320RS492 EP type number : 0 411 816 161

Governor

Governer design. : RSV200...1100P1A305

: -6

: 0 421 833 472 Governer no.

Cust. part No.

Customer-spec. information

: VOLVO-PENTA Customer : TD71APP Motor Power KW : 165.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration

damper

(RoBo diaphragm): 4.2

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

bar 173.5 : + 1.5 Tolerance bar

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 3.05 : +- 0.05 Tolerance mm

test only : + 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

: + 0.30Tolerance

Check

tolerance °NW : + 0.50

Start of delivery mark

Barrel no.

BASIC SETTING

Rated speed rpm 700

Rack travel in mm : 11.55 : + 0.05Tolerance mm

Del. quantity

cm3/1000 strokes : 110.0

Tolerance cm3/1000 strokes : + 1.0	theck tolerance cm3/1000s. : 7.5
Check tolerance cm3/1000s. : +- 3.0	RATED SPEED
Spreed Tolerance cm3/1000 strokes : 4.0	control lever position degree : 54.0
Check tolerance cm3/1000s. : 7.5	control lever position degree : 104.0
Rated speed rpm : 200	rack travel mm : 10.50 Rated speed rpm : 1115
Rack travel in mm : 5.50 Tolerance mm : + 0.10 Del. quantity	Tolerance 1/min : + 5 + rack travel mm : 4.00
cm3/1000 strokes : 19.0 Tolerance	Rated speed rpm : 1155 Tolerance 1/min : + 15
cm3/1000 strokes : +- 3.0 Spreed Tolerance	+ rack travel mm : 0.85 + Tolerance mm : + 0.55
cm3/1000 strokes : 3.0 Check tolerance	Rated speed rpm : 1300
cm3/1000s. : 6.0	LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 67.0
GUIDE SLEEVE POSITION	control lever position degree : 17.0
Rated speed rpm : 800	Testing:
Rack travel in mm: 0.50 Tolerance mm: + 0.20 governor spring	Rated speed rpm : 200 rack travel mm : 5.00 Tolerance mm : + 0.10
pre-tension click setting x : 4.30	rack travel mm : 2.00 Rated speed rpm : 310 Tolerance 1/min : + 30
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
Rated speed rpm : 700 Aneroid pressure hPa : -	CRT mm min. : > 19.50
Del. quantity cm3/1000 strokes : 110.0	TORQUE CONTROL
Tolerance cm3/1000 strokes : +- 1.0 check tolerance	Rated speed rpm : 700 rack travel mm : 11.55 Tolerance mm : + 0.05
cm3/1000s. : + 3.0 Spreed Tolerance	
cm3/1000 strokes : 4.0	+

# BREAKAWAY

Rack travel in mm: 10.50
Rated speed rpm: 1115
Tolerance 1/min: + 5

# LOW IDLE

Rated speed rpm : 200 rack travel mm 5.50 : + 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1000 strokes : +-3.0 Spreed Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. 6.0 :

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

: 18.08.95 Edition Test oil : ISO 4113

Combination No. : 0 401 876 769

Injection pump

Pump designation : PE6P12OA32ORS32O6-2

EP type number : 0 411 826 784

Governor

Governer design. : RSV250...1300P0A374

: -8

: 0 421 833 320 Governer no.

Cust. part No. : 864068 PO5 v. 04/95

Customer-spec. information : PENTA

Customer : TAMD71 B Motor Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration

damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 078

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar 1.5 Tolerance bar

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +-

Prestroke mm 3.55 : + 0.05Tolerance mm

test only : + 0.10

Rack travel in mm: 10.50

Tolerance mm :  $\leftarrow$  1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance : + 0.50

Check

tolerance "NW : + - 0.75

Start of delivery mark

1 Barrel no.

BASIC SETTING

Rated speed rpm 1000

Rack travel in mm: 10.10

: +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 216.5

Tolerance +	
1000	- Tolerance
cm3/1000 strokes : + 1.0	- cm3/1000 strokes : 5.0
CIID/ 1000 Strokes : TT 1.0	
<u> </u>	- Check tolerance
Check tolerance	- cm3/1000s. : 9.0
cm3/1000s. : +- 4.0	•
CIRS/ 10000: 7:0	
Spreed	- RATED SPEED
Tolerance	•
cm3/1000 strokes : 5.0	_
Ciliby 1000 301 0005 1 310	andral lavan
	- control lever
Check tolerance	- position degree : 114.0
cm3/1000s. : 9.0 +	- tolerance degree : +- 4.0
1	-
Traded annual num . 250	made Americal com
Rated speed rpm : 250	rack travel mm : 9.10
+	- Rated speed rpm : 1340
Rack travel in mm: 5.20	Tolerance 1/min : + 5
Tolerance mm : + 0.30	
Del. quantity +	rack travel mm : 4.00
cm3/1000 strokes : 20.0	- Rated speed rpm : 1430
Tolerance +	Tolerance 1/min : + 15
cm3/1000 strokes : +- 2.5	
Check tolerance	rack travel mm : 0.85
cm3/1000s. : $+$ 5.0 $+$	Tolerance mm : +- 0.55
Spreed	Rated speed rpm : 1530
Tolerance	
cm3/1000 strokes : 5.0	rack travel mm : 4.00
Check tolerance +	Rated speed rpm : 1440
cm3/1000s. : 7.0	•
1	
1	LOUITALE
<u> </u>	LOW IDLE
(B) SETTING OF INJECTION PUMP	•
WITH GOVERNOR +	
1	control lever
Ţ	position degree : 80.0
	tolerance degree : + 4.0
GUIDE SLEEVE POSITION +	tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	
+	Setting point w/out bumper spring
GUIDE SLEEVE POSITION  Rated speed rpm : 800	Setting point w/out bumper spring
Rated speed rpm : 800	Setting point w/out bumper spring Rated speed rpm : 250
+	Setting point w/out bumper spring
Rated speed rpm : 800  Rack travel in mm : 0.50	Setting point w/out bumper spring Rated speed rpm : 250
Rated speed rpm : 800	Setting point w/out bumper spring  Rated speed rpm : 250  rack travel mm : 4.70
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20	Setting point w/out bumper spring Rated speed rpm : 250
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring	Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 4.70  Testing:
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension	Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 4.70  Testing:  Rated speed rpm : 250
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension	Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 4.70  Testing:  Rated speed rpm : 250 rack travel mm : 5.20
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring	Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 4.70  Testing:  Rated speed rpm : 250 rack travel mm : 5.20
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension	Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 4.70  Testing:  Rated speed rpm : 250
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 6.00	Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 4.70  Testing:  Rated speed rpm : 250 rack travel mm : 5.20 Tolerance mm : + 0.10
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension	Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 4.70  Testing:  Rated speed rpm : 250 rack travel mm : 5.20 Tolerance mm : + 0.10  rack travel mm : 2.00
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 6.00	Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 4.70  Testing:  Rated speed rpm : 250 rack travel mm : 5.20 Tolerance mm : + 0.10
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 6.00  FULL LOAD DELIVERY AT FULL LOAD STOP	Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 4.70  Testing:  Rated speed rpm : 250 rack travel mm : 5.20 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 440
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 6.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1000	Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 4.70  Testing:  Rated speed rpm : 250 rack travel mm : 5.20 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 440
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 6.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1000 Aneroid pressure	Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 4.70  Testing:  Rated speed rpm : 250 rack travel mm : 5.20 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 440
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 6.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1000 Aneroid pressure hPa : 1200	Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 4.70  Testing:  Rated speed rpm : 250 rack travel mm : 5.20 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 440 Tolerance 1/min : + 30
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 6.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity	Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 4.70  Testing:  Rated speed rpm : 250 rack travel mm : 5.20 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 440
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 6.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity	Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 4.70  Testing:  Rated speed rpm : 250 rack travel mm : 5.20 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 440 Tolerance 1/min : + 30
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 6.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 216.5	Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 4.70  Testing:  Rated speed rpm : 250 rack travel mm : 5.20 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 440 Tolerance 1/min : + 30
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 6.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 216.5 Tolerance	Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 4.70  Testing:  Rated speed rpm : 250 rack travel mm : 5.20 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 440 Tolerance 1/min : + 30  TORQUE CONTROL  Rated speed rpm : 1000
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 6.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 216.5 Tolerance cm3/1000 strokes : + 1.0	Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 4.70  Testing:  Rated speed rpm : 250 rack travel mm : 5.20 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 440 Tolerance 1/min : + 30  TORQUE CONTROL  Rated speed rpm : 1000 rack travel mm : 10.10
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 6.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 216.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 4.70  Testing:  Rated speed rpm : 250 rack travel mm : 5.20 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 440 Tolerance 1/min : + 30  TORQUE CONTROL  Rated speed rpm : 1000
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 6.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 216.5 Tolerance cm3/1000 strokes : + 1.0	Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 4.70  Testing:  Rated speed rpm : 250 rack travel mm : 5.20 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 440 Tolerance 1/min : + 30  TORQUE CONTROL  Rated speed rpm : 1000 rack travel mm : 10.10
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 6.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 216.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0	Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 4.70  Testing:  Rated speed rpm : 250 rack travel mm : 5.20 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 440 Tolerance 1/min : + 30  TORQUE CONTROL  Rated speed rpm : 1000 rack travel mm : 10.10
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 6.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 216.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 4.70  Testing:  Rated speed rpm : 250 rack travel mm : 5.20 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 440 Tolerance 1/min : + 30  TORQUE CONTROL  Rated speed rpm : 1000 rack travel mm : 10.10

ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1200 : 10.10 : + 0.05	
MEASUREMENT		
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 7.20 : + 0.10	
Rated speed rpm	: 500	
Pressure hPa rack travel mm Tolerance mm	: 780 : 9.80 : + 0.10	
Pressure hPa rack travel mm Tolerance mm	: 360 : 7.55 : ← 0,.05	
FUEL DELIVERY CHA	RACTERISTICS	
Aneroid pressure		
hPa Rated speed rpm	700	
Del. quantity		
cm3/1000 strokes Tolerance	: 136.5	
cm3/1000 strokes	: + 1.0	
Check tolerance		
cm3/1000s.	: +- 4.0	
BREAKAWAY		
Rack travel in mm Rated speed rpm Tolerance 1/min		

250

: 5.20 : + 0.30 rack travel mm : Tolerance mm Del. quantity cm3/1000 strokes : 20.0 Tolerance cm3/1000 strokes : +-2.5 Check tolerance cm3/1000s.5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s.7.0

End of test specification sheet

Rated speed rpm :

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 16.08.95 : ISO 4113

Combination No. : 0 401 876 784

Injection pump

Pump designation : PE6P120A320RS3189 EP type number : 0 411 826 759

Governor

Governer design. : RSV650...750P4A421

: -14

Governer no.

: 0 421 833 467

Cust. part No. : 864537 PO7 V. 05/95

Customer-spec. information Customer : PENTA

: TWD 710 G Motor

TEST BENCH REQUIREMENTS

: 3.1 Inlet line

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C 40 Tolerance °C

: 1 417 413 025 Overflow valve

Inlet press. bar : 1,5 Tolerance bar 0.1

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 067

Outside diameter : 6.0

x inside diameter: 1.5

x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 2.65 Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm: 10.50 Tolerance mm : **←** 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: + 0.30Tolerance

Check

tolerance \*NW : + 0.75

Start of delivery mark

1 Barrel no.

BASIC SETTING

Rated speed rpm 700

Rack travel in mm: 9.00

: + 0.05Tolerance mm

Del. quantity

cm3/1000 strokes :

178.0

Tolerance +	Tolerance
cm3/1000 strokes : +- 1.0 +	cm3/1000 strokes : 5.0
	Check tolerance
Check tolerance +	cm3/1000s. : 9.0
cm3/1000s. : +- 4.0	
1	
Spreed	RATED SPEED
Tolerance	MATEU OF EED
cm3/1000 strokes : 5.0 +	
	control lever
Check tolerance +	position degree : 94.0
cm3/1000s. : 9.0 +	tolerance degree : +- 4.0
+	
Rated speed rpm : 650 +	rack travel mm : 8.00
1	Rated speed rpm : 752
Rack travel in mm: 3.40	Tolerance 1/min : +- 3
Tolerance mm : + 0.20	TO COT ALLOW THE TOTAL OF THE T
	rack travel mm : 4.00
Del. quantity + cm3/1000 strokes : 22.0 +	
· ·	Rated speed rpm : 778
Tolerance	Tolerance 1/min : + 7
cm3/1000 strokes : + 2.0 +	
Check tolerance +	rack travel mm : 0.85
cm3/1000s. : +- 5.0 $+$	Tolerance mm : +- 0.55
Spreed	Rated speed rpm : 900
Tolerance	•
cm3/1000 strokes : 5.0 +	
Check tolerance	LOW IDLE
cm3/1000s. : 8.0	CON IDEC
CIID/10003 0.0 T	
Ť	
†	control lever
(B) SETTING OF INJECTION PUMP +	position degree : 88.0
WITH GOVERNOR +	tolerance degree : + 4.0
+	
+	Testing:
<del></del>	-
GUIDE SLEEVE POSITION +	Rated speed rpm : 650
1	rack travel mm : 3.40
Rated speed rpm : 800 +	Tolerance mm : +- 0.10
rated speed rpm . 000	Totel differ inti
0.50	
Rack travel in mm: 0.50	rack travel mm : 2.00
Tolerance mm : + 0.20 +	Rated speed rpm : 660_
<del> </del>	Tolerance 1/min : + 30
governor spring +	
pre-tension +	SET IDLE AUXILIARY SPRING
click setting x : 4.50	
<u> </u>	rack travel mm : 2.00
FULL LOAD DELIVERY AT FULL LOAD STOP	
TOLL COMP PLEATERS AS SOLUTION	TORQUE CONTROL
Rated speed rpm : 700	FORMUL GOTTINGE
The second secon	Poted speed pp 700
Aneroid pressure	Rated speed rpm : 700
hPa : - +	rack travel mm : 9.00
Del. quantity +	talamanaa mm a 1 H HL
	Tolerance mm : + 0.05
cm3/1000 strokes : 178.0 +	roterance and : - 0.05
	roterance and : 0.05
cm3/1000 strokes : 178.0 +	roterance mm : +- 0.05
cm3/1000 strokes : 178.0  Tolerance cm3/1000 strokes : + 1.0	roterance mm : +- 0.05
cm3/1000 strokes : 178.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance	roterance mm : + 0.05
cm3/1000 strokes : 178.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0	
cm3/1000 strokes : 178.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance	BREAKAWAY
cm3/1000 strokes : 178.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0	

Rack travel in mm : 8.00
Rated speed rpm : 752
Tolerance 1/min : + 3

### STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50

### LOW IDLE

650 Rated speed rpm : rack travel mm : 3.40 : +- 0.20 Tolerance mm Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance 5.0 cm3/1000 strokes : Check tolerance cm3/1000s.8.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.08.95 Test oil : ISO 4113

Combination No. : 0 401 876 785

Injection pump

Pump designation : PE6P12OA32ORS3189 EP type number : 0 411 826 759

Governor

Governer design. : RSV650...750P4A421

: -8

Governer no. : 0 421 833 361

Cust. part No. : 864849 PO6 V. 02/95

Customer spec. information Customer : PENTA Motor : TD1210G

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp.  $^{\circ}$ C : 40 Tolerance  $^{\circ}$ C :  $\leftarrow$  2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 169 Tolerance l/h : + 10.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.65
Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.30

Check

tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.40 Tolerance mm : + 0.05

Del. quantity + cm3/1000 strokes : 278.0 +	Check tolerance cm3/1000s. : +- 4.0 Spreed
Tolerance cm3/1900 strokes : + 1.0	Tolerance cm3/1000 strokes : 5.0 Check tolerance
Check tolerance cm3/1000s. : + 4.0	cm3/1000s. : 9.0
Spreed Tolerance	RATED SPEED
cm3/1000 strokes : 5.0	control lever
Check tolerance cm3/1000s. : 9.0	position degree : 90.0 tolerance degree : +- 4.0
Rated speed rpm : 650	rack travel mm : 11.40 Rated speed rpm : 750
Rack travel in mm: 3.50 + Tolerance mm: + 0.20 +	Tolerance 1/min : + 3
Del. quantity +	rack travel mm : 4.00
cm3/1000 strokes : 25.0 +	Rated speed rpm : 788
Tolerance +	Tolerance 1/min : + 7
cm3/1000 strokes : + 2.5 +	
Check tolerance +	rack travel mm : 0.85
cm3/1000s. : + 5.0 +	Tolerance mm : + 0.55
Spreed	Rated speed rpm : 900
Tolerance + cm3/1000 strokes : 5.0 +	
Check tolerance	LOW IDLE
cm3/1000s. : 8.0	LOW IDEE
CIID7 100003:	
1	control lever
(B) SETTING OF INJECTION PUMP	position degree : 84.0
WITH GOVERNOR	tolerance degree : + 4.0
+	
	Testing:
GUIDE SLEEVE POSITION	Rated speed rpm : 650
<del>}</del>	rack travel mm : 3.50
Rated speed rpm : 800 +	Tolerance mm : +- 0.10
<del>†</del>	
Rack travel in mm: 0.50	rack travel mm : 2.00
Tolerance mm : + 0.20 +	Rated speed rpm : 660
	Tolerance 1/min : +- 30
governor spring	SET IDLE AUXILIARY SPRING
pre-tension + click setting x : 4.00 +	SET THE AUXILIARY SPRING
click setting $x$ : 4.00 $\pm$	rack travel mm : 2.00
	tack traver into
FULL LOAD DELIVERY AT FULL LOAD STOP	
1000 0000 00000000000000000000000000000	TORQUE CONTROL
Rated speed rpm : 700	
Aneroid pressure	Rated speed rpm : 700
hPa : -	rack travel mm : 12.40
Del. quantity	Tolerance mm : + 0.05
cm3/1000 strokes : 278.0	
Tolerance	
cm3/1000 strokes : + 1.0 +	
1	<b>X</b>
•	

### BREAKAWAY

Rack travel in mm : 11.40
Rated speed rpm : 750
Tolerance 1/min : + 3

# STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50

### LOW IDLE

Rated speed rpm : 650 3.50 rack travel mm : Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 25.0 Tolerance 2.5 cm3/1000 strokes : +-Check tolerance cm3/1000s. 5.0 Spreed Tolerance 5.0 cm3/1000 strokes : Check tolerance 8.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.08.95 Test oil : ISO 4113

Combination No. : 0 401 876 790

Injection pump

Pump designation : PE6P120A320RS3189 EP type number : 0 411 826 759

Governor

Governer design. : RSV650...750P4A421

: -10

Governer no. : 0 421 833 369

Cust. part No. : 864845 PO4 V. 02/95

Customer—spec. information Customer : PENTA Motor : TD1010G

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm): 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5Tolerance bar :  $\leftarrow$  0.1

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.65
Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.30

Check

tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.60

Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 256.0

\_\_\_\_\_

Tolerance cm3/1000 strokes : + 1.0	Tolerance cm3/1000 strokes : 5.0 Check tolerance
Check tolerance cm3/1000s. : + 4.0	cm3/1000s. : 9.0
Spreed Tolerance cm3/1000 strokes : 5.0	RATED SPEED
Check tolerance cm3/1000s. : 9.0	control lever position degree : 90.0 tolerance degree : +- 4.0
Rated speed rpm : 650	rack travel mm : 10.60 Rated speed rpm : 753
Rack travel in mm: 3.50 Tolerance mm: + 0.20	Tolerance 1/min : + 3
Del. quantity cm3/1000 strokes : 25.0 Tolerance	rack travel mm : 4.00 Rated speed rpm : 783 Tolerance 1/min : +- 7
cm3/1000 strokes : + 2.5 Check tolerance	rack travel mm : 0.85
cm3/1000s. : + 5.0 + Spreed + Tolerance	Tolerance mm : + 0.55 Rated speed rpm : 900
cm3/1000 strokes : 5.0 + Check tolerance	LOW IDLE
cm3/1000s. : 8.0	
(B) SETTING OF INJECTION PUMP WITH SOVERNOR	control lever position degree : 83.0 tolerance degree : + 4.0
	Testing:
GUIDE SLEEVE POSITION	Rated speed rpm : 650 rack travel mm : 3.50
Rated speed rpm : 800	Tolerance mm : + 0.10
Rack travel in mm: 0.50 Tolerance mm: + 0.20	SET IDLE AUXILIARY SPRING
governor spring	rack travel mm : 2.00
pre-tension click setting x : 4.00	TORQUE CONTROL
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 700 rack travel mm : 11.60 Tolerance mm : +- 0.05
Rated speed rpm : 700 + Aneroid pressure	
hPa : - + Del. quantity +	
cm3/1000 strokes : 256.0 + Tolerance + cm3/1000 strokes : + 1.0 + 1.0	BREAKAWAY
Check tolerance +	5 1 1 1 1 2 2 2 2
cm3/1000s. : +- 4.0 +	Rack travel in mm : 10.60 Rated speed rpm : 753 Tolerance 9/min : +- 3

# STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50

# LOW IDLE

650 Rated speed rpm 3.50 rack travel mm : +- 0.20 Tolerance mm Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes : +-2.5 Check tolerance cm3/1000s. 5.0 Spreed Tolerance 5.0 cm3/1000 strokes : Check tolerance cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 21.08.95 Edition : ISO 4113

Combination No. : 0 401 876 801

Injection pump

Pump designation : PE6P120A320RS3189

EP type number : 0 411 826 759

Governor

Test oil

Governer design. : RSV250...900P1A421

: -12

: 0 421 833 465 Governer no.

: 866382 P05 Cust. part No.

Customer-spec. information : PENTA Customer

: TWD 710P Motor

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration

damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C Tolerance °C 2.0

: 1 417 413 010 Overflow valve

Inlet press. bar : 1.5 Tolerance bar 0.1

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar Tolerance bar

Test lines : 1 680 750 075

Outside diameter : 8.0

3.0 x inside diameter :

: 1000 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar

Prestroke mm 2.65 Tolerance mm : +- 0.05

: + - 0.10test only

Rack travel in mm: 10.50 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

: + 0.75tolerance \*NW

Start of delivery mark

1 Barrel no.

BASIC SETTING

700 Rated speed rpm

Rack travel in mm: 8.15

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 155.0

Tolerance +	rack travel mm : 7.15
cm3/1000 strokes : +- 1.0	Rated speed rpm : 925
1.0	Tolerance 1/min : +- 5
Check tolerance	roter drice Triming . The J
	month through the a / CO
cm $3/1000$ s. : $\leftarrow$ 4.0	rack travel mm : 4.00
	Rated speed rpm : 960
Spreed	Tolerance 1/min : +- 15
Tolerance +	
cm3/1000 strokes : 5.0 +	rack travel mm : 0.85
<u> </u>	Tolerance mm : + 0.55
Check tolerance	Rated speed rpm : 1070
cm3/1000s. : 9.0	viacon oposa vpiii v vovo
1	
Ţ	LOW IDLE
(D) OFTING OF THIS CTTON DUMP	FOM TAFE
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR +	
+	control lever
+	position degree : 78.0
	tolerance degree : +- 4.0
GUIDE SLEEVE POSITION +	•
	control lever
Rated speed rpm : 800	position degree : 28.0
rated speed (bill . ODD T	
0.50	tolerance degree : $\leftarrow$ 4.0
Rack travel in mm: 0.50 +	
Tolerance mm : + 0.20 +	Setting point w/out bumper spring
+	
governor spring +	Rated speed rpm : 250
pre-tension +	rack travel mm : 4.30
click setting x : 6.00	
1	Testing:
<u> </u>	resering.
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 250
FULL LUAD DELIVERY AT FULL LUAD STOP	
700	rack travel mm : 4.80
Rated speed rpm : 700 +	Tolerance mm : +- 0.20
Aneroid pressure +	
hPa : - +	rack travel mm : 2.00
Del. quantity	Rated speed rpm : 360
cm3/1000 strokes : 155.0	Tolerance 1/min : + 30
Tolerance	
cm3/1000 strokes : + 1.0 +	
Check tolerance	TORQUE CONTROL
	TORAGE CONTROL
	0-t-d-md-m
Spreed +	Rated speed rpm : 700
Tolerance +	rack travel mm : 8.15 Tolerance mm : +- 0.05
cm3/1000 strokes : 5.0 +	Tolerance mm : +- 0.05
Check tolerance +	
cm3/1000s. : 9.0 +	
+	
RATED SPEED	····
1	BREAKAWAY
1	
control lever	
· ·	Rack travel in mm: 7.15
position degree : 51.0	
tolerance degree : +- 4.0 +	Rated speed rpm : 925
<del></del>	Tolerance 1/min : +- 5
control lever	
position degree : 101.0	
tolerance degree : + 4.0	
•	

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

: 30.05.95 Edition Test oil : ISO 4113

Combination No. : 0 401 876 805

Injection pump

Pump designation : PE6P12OA32ORS3343 EP type number : 0 411 826 813

Governor

Governer design. : RSV350...1100P1A559

: 0 421 833 389 Governer no.

Cust. part No. : 1372022

Customer-spec. information Customer : SCANIA : DSC945A Motor

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5 Tolerance bar 0.1

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

251.5 har Tolerance bar : +- 1.5 Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 600 x length mm :

REMARKS

Start-of-delivery setting with ROBO

diaphragm.

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +-1.0

Prestroke mm Tolerance mm : +- 0.05

: + 0.10test only

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance \*NW : + 0.50

Start of delivery mark

1 Barrel no.

BASIC SETTING

Rack travel in mm: 5.20 Tolerance mm 0.20

Del. quantity

cm3/1000 strokes : 17.0

Tolerance +	
. =:::	Del. quantity
cm3/1000 strokes : +- 4.0 +	cm3/1000 strokes : 216.0
<del></del>	Tolerance
Check tolerance +	cm3/1000 strokes : +- 1.0
cm3/1000s. : + 6.0	Check tolerance
+	cm3/1000s. : +- 4.0
Spreed	Spreed
	Tolerance
Tolerance	cm3/1000 strokes : 8.0
cm3/1000 strokes : 5.0	Check tolerance
CIID/ 1000 Strokes . J.D	cm3/1000s. : 12.0
Check tolerance	CND/10003 12.0
cm3/10D0s. : 9.0 +	DATEN ODEEN
700	RATED SPEED
Rated speed rpm : 700	
<del>†</del>	control lever
Rack travel in mm: 14.05	position degree : 35.0
Tolerance mm : + 0.05	tolerance degree : +- 4.0
Del. quantity	control lever
cm3/1000 strokes : 216.0	position degree : 85.0
	tolerance degree : +- 4.0
Tolerance	totol alloc acgi ec
cm3/1000 strokes : +- 1.0 +	
CID/ LOOD SELONES 1.0	
Check tolerance	TORQUE CONTROL
	TORQUE CONTROL
cm3/1000s. : + 4.0 +	700
	Rated speed rpm : 700
Spreed +	rack travel mm : 14.05
Tolerance +	Tolerance mm : +- 0.05
cm3/1000 strokes : 8.0 +	
Check tolerance +	ANEROID/ALTITUDE
cm3/1000s. : 12.0 +	COMPENSATOR TEST
1	
(B) SETTING OF INJECTION PUMP	SETTING
(B) SETTING OF INJECTION PUMP	SETTING
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	
	Rated speed rpm : 500
	Rated speed rpm : 500 Pressure hPa : 1500
WITH GOVERNOR	Rated speed rpm : 500 Pressure hPa : 1500 rack travel mm : 14.05
	Rated speed rpm : 500 Pressure hPa : 1500
GUIDE SLEEVE POSITION	Rated speed rpm : 500 Pressure hPa : 1500 rack travel mm : 14.05 Tolerance mm : + 0.05
WITH GOVERNOR	Rated speed rpm : 500 Pressure hPa : 1500 rack travel mm : 14.05
GUIDE SLEEVE POSITION  Rated speed rpm : 800	Rated speed rpm : 500 Pressure hPa : 1500 rack travel mm : 14.05 Tolerance mm : + 0.05 MEASUREMENT
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50	Rated speed rpm : 500 Pressure hPa : 1500 rack travel mm : 14.05 Tolerance mm : + 0.05  MEASUREMENT Pressure hPa : -
GUIDE SLEEVE POSITION  Rated speed rpm : 800	Rated speed rpm : 500 Pressure hPa : 1500 rack travel mm : 14.05 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 500
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20	Rated speed rpm : 500 Pressure hPa : 1500 rack travel mm : 14.05 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 500
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50	Rated speed rpm : 500 Pressure hPa : 1500 rack travel mm : 14.05 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 500
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20	Rated speed rpm : 500 Pressure hPa : 1500 rack travel mm : 14.05 Tolerance mm : + 0.05  MEASUREMENT Pressure hPa : -
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension	Rated speed rpm : 500 Pressure hPa : 1500 rack travel mm : 14.05 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 500
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring	Rated speed rpm : 500 Pressure hPa : 1500 rack travel mm : 14.05 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 500 rack travel mm : 12.00 Tolerance mm : + 0.20
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension	Rated speed rpm : 500 Pressure hPa : 1500 rack travel mm : 14.05 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 500 rack travel mm : 12.00 Tolerance mm : + 0.20  Rated speed rpm : 500
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50  Tolerance mm : + 0.20  governor spring pre-tension click setting x : 2.25	Rated speed rpm : 500 Pressure hPa : 1500 rack travel mm : 14.05 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 500 rack travel mm : 12.00 Tolerance mm : + 0.20  Rated speed rpm : 500 Pressure hPa : 330
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension	Rated speed rpm : 500 Pressure hPa : 1500 rack travel mm : 14.05 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 500 rack travel mm : 12.00 Tolerance mm : + 0.20  Rated speed rpm : 500  Pressure hPa : 330 rack travel mm : 12.55
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 2.25  FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 500 Pressure hPa : 1500 rack travel mm : 14.05 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 500 rack travel mm : 12.00 Tolerance mm : + 0.20  Rated speed rpm : 500 Pressure hPa : 330
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 2.25  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700	Rated speed rpm : 500 Pressure hPa : 1500 rack travel mm : 14.05 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 500 rack travel mm : 12.00 Tolerance mm : + 0.20  Rated speed rpm : 500  Pressure hPa : 330 rack travel mm : 12.55 Tolerance mm : + 0.15
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 2.25  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700 Aneroid pressure	Rated speed rpm : 500 Pressure hPa : 1500 rack travel mm : 14.05 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 500 rack travel mm : 12.00 Tolerance mm : + 0.20  Rated speed rpm : 500  Pressure hPa : 330 rack travel mm : 12.55 Tolerance mm : + 0.15  Pressure hPa : 490
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 2.25  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700	Rated speed rpm : 500 Pressure hPa : 1500 rack travel mm : 14.05 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 500 rack travel mm : 12.00 Tolerance mm : + 0.20  Rated speed rpm : 500  Pressure hPa : 330 rack travel mm : 12.55 Tolerance mm : + 0.15

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm : Del. quantity cm3/1000 strokes : 500

174.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance cm3/1000s. 4.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 15.08.95 : ISO 4113

Combination No. : 0 401 876 808

Injection pump

Pump designation : PE6P12OA32ORS3355 EP type number : 0 411 826 814

Governer design. : RSV300...1100P1A604

Governor

Governer no. : 0 421 833 485

Cust. part No. : 3825516 PO2 v. 5/95

Customer-spec. information

Customer : PENTA

Motor

: TD1030ME

Power KW

: 190.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve : 2 417 413 078

Inlet press. bar :

1.5

Tolerance bar : + 0.1

Overflow quantity

min. l/h : 85
Tolerance l/h : + 10.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter:

2.0

x length mm :

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 3.45
Tolerance mm : + 0.05

: **←** 0.10 test only

Rack travel in mm: 9.90 Tolerance mm :  $\leftarrow$  0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: **←** 0.30 Tolerance

Check

tolerance °NW :  $\leftarrow$  0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm :

1100

Rack travel in mm: 12.50 Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 156.0

Tolerance +	Tolerance
cm3/1000 strokes : + 1.0	cm3/1000 strokes : 7.0
	Check tolerance
Check tolerance	cm3/1000s. : 11.0
cm3/1000s. : +- 4.0 +	
Spreed	RATED SPEED
Tolerance	MATEU SPEED
cm3/1000 strokes : 7.0	
	control lever
Check tolerance +	position degree : 62.0
cm3/1000s. : 11.0	tolerance degree : +- 4.0
Rated speed rpm : 300	control lever
1	position degree : 112.0
Rack travel in mm: 4.70	tolerance degree : +- 4.0
Tolerance mm : + 0.20 +	44.50
Del. quantity + cm3/1000 strokes : 23.0 +	rack travel mm : 11.50 Rated speed rpm : 1135
Tolerance	Tolerance 1/min : + 5
cm3/1000 strokes : +- 2.5	Total and Triming
Check tolerance	rack travel mm : 4.00
cm3/1000s. : + 5.0 +	Rated speed rpm : 1190
Spreed + Tolerance +	Tolerance 1/min : + 15
cm3/1000 strokes : 3.0	rack travel mm : 0.85
Check tolerance	Tolerance mm : + 0.55
cm3/1000s. : 6.0	Rated speed rpm : 1300
†	most through my / 00
(D) SETTING OF THUESTYON CHIP	rack travel mm : 4.00
14) SELLING DE 1936ELLIND PLOTE	Rated speed rom · 1195
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1195
WITH GOVERNOR +	
the state of the s	Rated speed rpm : 1195  LOW IDLE
WITH GOVERNOR	
the state of the s	
GUIDE SLEEVE POSITION	LOW IDLE
GUIDE SLEEVE POSITION  Rated speed rpm : 800	LOW IDLE
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mms: 0.85	LOW IDLE  control lever position degree : 76.0 tolerance degree : +- 4.0
GUIDE SLEEVE POSITION  Rated speed rpm : 800	LOW IDLE  control lever position degree : 76.0 tolerance degree : + 4.0 control lever
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mms: 0.85 Tolerance mm : + 0.55	LOW IDLE  control lever position degree : 76.0 tolerance degree : + 4.0 control lever position degree : 26.0
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mms: 0.85	LOW IDLE  control lever position degree : 76.0 tolerance degree : + 4.0  control lever position degree : 26.0 tolerance degree : + 4.0
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mms: 0.85 Tolerance mm : + 0.55  governor spring	LOW IDLE  control lever position degree : 76.0 tolerance degree : + 4.0 control lever position degree : 26.0
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mms: 0.85 Tolerance mm : + 0.55  governor spring pre-tension	control lever position degree : 76.0 tolerance degree : + 4.0  control lever position degree : 26.0 tolerance degree : + 4.0  Setting point w/out bumper spring
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mms : 0.85 Tolerance mm : + 0.55  governor spring pre-tension click setting x : 4.75	LOW IDLE  control lever position degree : 76.0 tolerance degree : + 4.0   control lever position degree : 26.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 300
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mms: 0.85 Tolerance mm : + 0.55  governor spring pre-tension	control lever position degree : 76.0 tolerance degree : + 4.0  control lever position degree : 26.0 tolerance degree : + 4.0  Setting point w/out bumper spring
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mms : 0.85  Tolerance mm : + 0.55  governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1100	LOW IDLE  control lever position degree : 76.0 tolerance degree : + 4.0   control lever position degree : 26.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 300
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mms: 0.85  Tolerance mm : + 0.55  governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1100 Aneroid pressure	control lever position degree : 76.0 tolerance degree : + 4.0  control lever position degree : 26.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 300 rack travel mm : 4.20  Testing:
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mms: 0.85 Tolerance mm : + 0.55  governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1100 Aneroid pressure hPa : 1500	LOW IDLE  control lever position degree : 76.0 tolerance degree : + 4.0   control lever position degree : 26.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 300 rack travel mm : 4.20  Testing:  Rated speed rpm : 300
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mms: 0.85 Tolerance mm : + 0.55  governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1100 Aneroid pressure hPa : 1500 Del. quantity	LOW IDLE  control lever position degree : 76.0 tolerance degree : + 4.0   control lever position degree : 26.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 300 rack travel mm : 4.20  Testing:  Rated speed rpm : 300 rack travel mm : 4.70
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mms: 0.85 Tolerance mm : + 0.55  governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1100 Aneroid pressure hPa : 1500	control lever position degree : 76.0 tolerance degree : + 4.0  control lever position degree : 26.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 300 rack travel mm : 4.20  Testing:  Rated speed rpm : 300 rack travel mm : 4.70 Tolerance mm : + 0.10
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.85 Tolerance mm : + 0.55  governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 156.0 Tolerance cm3/1000 strokes : + 1.0	control lever position degree : 76.0 tolerance degree : + 4.0  control lever position degree : 26.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 300 rack travel mm : 4.20  Testing:  Rated speed rpm : 300 rack travel mm : 4.70 Tolerance mm : + 0.10  rack travel mm : 2.00
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mms: 0.85 Tolerance mm : + 0.55  governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 156.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance	control lever position degree : 76.0 tolerance degree : + 4.0  control lever position degree : 26.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 300 rack travel mm : 4.20  Testing:  Rated speed rpm : 300 rack travel mm : 4.70 Tolerance mm : 4.70 Tolerance mm : 2.00 Rated speed rpm : 380
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mms : 0.85 Tolerance mm : + 0.55  governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 156.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0	control lever position degree : 76.0 tolerance degree : + 4.0  control lever position degree : 26.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 300 rack travel mm : 4.20  Testing:  Rated speed rpm : 300 rack travel mm : 4.70 Tolerance mm : + 0.10  rack travel mm : 2.00
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mms: 0.85 Tolerance mm : + 0.55  governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 156.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance	control lever position degree : 76.0 tolerance degree : + 4.0  control lever position degree : 26.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 300 rack travel mm : 4.20  Testing:  Rated speed rpm : 300 rack travel mm : 4.70 Tolerance mm : 4.70 Tolerance mm : 2.00 Rated speed rpm : 380

# TORQUE CONTROL Rated speed rpm : 1100

rack travel mm : 12.50 Tolerance mm : + 0.05

Rated speed rpm : 700 rack travel mm : 12.50 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.50
Tolerance mm : +- 0.05

#### MEASUREMENT

Pressure hPa : Rated speed rpm : 500
rack travel mm : 9.55
Tolerance mm : + 0.10

Rated speed rpm : 500

Pressure hPa : 555 rack travel mm : 2.30 Tolerance mm : + 0.15

Pressure hPa : 140
rack travel mm : 0.25
Tolerance mm : + 0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1500 Rated speed rpm : 700 Del. quantity

cm3/1000 strokes : 179.5 Tolerance

10ter ante

cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0

cm3/1000S. Spreed

Tolerance cm3/1000 strokes : 7.0

Check tolerance

cm3/1000s. : 11.0

Aneroid pressure

hPa : - 500

Del. quantity

cm3/1000 strokes : 127.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. :  $\leftarrow$  4.0

## **BREAKAWAY**

Rack travel in mm : 11.50
Rated speed rpm : 1135
Tolerance 1/min : +- 5

#### LOW IDLE

Rated speed rom 300 rack travel mm 4.70 : Tolerance mm 0.20 Del. quantity cm3/1000 strokes : 23.0 Tolerance 2.5 cm3/1000 strokes : +-Check tolerance cm3/1000s. 5.0 : +-Spreed Tolerance cm3/1000 strokes 3.0 Check tolerance cm3/1000s. 6.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 04.09.95 Edition : ISO 4113 Test oil

Combination No. : 0 402 036 760

Injection pump

Pump designation : PES6P120A720/3LS3255

EP type number : 0 412 026 775

Governor

Governer design. : RQ300/1000PA813-24

Governer no. : 0 421 801 790

Cust. part No. : 51.11103-7388

Customer-spec. information

Customer : MAN

: D 2866 LOH 09/20 Motor

Power KW : 230.0

#### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 115 Tolerance L/h : + 10.0

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5 Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x Length mm : 1000

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar: Tolerance bar : + 1.0

Prestroke mm 3.75 Tolerance mm : + 0.05

test only : +- 0.10

Rack travel in mm : 15.00 Tolerance m : + 0.50

Firing order : 6-2-4-1-5-

: 3

Phasing : 0-60-120-180-240

: -300 Tolerance : ← 0.30

Check

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.50

Start of delivery blocking

Barrel no. :

BASIC SETTING

700 Rated speed rpm :

Rack travel in mm: 13.90 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 206.0

·	•	
Tolerance	+	
cm3/1000 strokes : +-	1.0	Rated speed rpm : 1230
	<del> </del>	guide sleeve
Check tolerance	+	travel mm : 11.50
cm3/1000s. : +-	4.0	Tolerance mm : + 0.50
Spreed	+	
Tolerance	+	GUIDE SLEEVE POSITION
cm3/1000 strokes :	5.0	
	<del>_</del>	Rated speed rpm : 550
Check tolerance	+	•
cm3/1000s. :	9.0	Rack travel in mm : 15.50
	+	Tolerance mm : + 0.80
Rated speed rpm :	300	
•	1	
Rack travel in mm :	6.30	FULL LOAD DELIVERY AT FULL LOAD STOP
	0.20	
Del. quantity	1	Rated speed rpm : 700
cm3/1000 strokes :	20.0	Aneroid pressure
Tolerance	1	hPa : 1200
cm3/1000 strokes : +-	3.0	Del. quantity
Check tolerance	1	cm3/1000 strokes : 206.0
cm3/1000s. : +-	6.0	Tolerance
Spreed	1	cm3/1000 strokes : + 1.0
Tolerance	1	Check tolerance
cm3/1000 strokes :	8.0	cm3/1000s. : +- 4.0
Check tolerance	1	Spreed
cm3/1000s. :	12.0	Tolerance
(115) (10003).	1	cm3/1000 strokes : 5.0
	$\perp$	Check tolerance
(B) SETTING OF INJECTION	NI PI MP L	cm3/1000c · 0.0
(B) SETTING OF INJECTION	ON PUMP †	cm3/1000s. : 9.0
(B) SETTING OF INJECTION WITH GOVERNOR	ON PUMP +	cm3/1000s. : 9.0
	ON PUMP	
WITH GOVERNOR	ON PUMP	cm3/1000s. : 9.0  RATED SPEED
	ON PUMP	
WITH GOVERNOR  GUIDE SLEEVE TRAVEL	<del></del>	RATED SPEED
GUIDE SLEEVE TRAVEL Rated speed rpm :	300 ±	RATED SPEED  control lever
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve	300	RATED SPEED  control lever position degree : 282.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm :	300	RATED SPEED  control lever
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm :	300	RATED SPEED  control lever position degree : 282.0 tolerance degree : 4.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +-	300 2.38 0.10	RATED SPEED  control lever position degree : 282.0 tolerance degree : 4.0 rack travel mm : 12.90
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +-  Rated speed rpm : 1	300	RATED SPEED  control lever position degree : 282.0 tolerance degree : + 4.0 rack travel mm : 12.90 Rated speed rpm : 1053
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve	300 2.38 0.10	RATED SPEED  control lever position degree : 282.0 tolerance degree : 4.0 rack travel mm : 12.90
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : 1	300 2.38 0.10 060 7.31	RATED SPEED  control lever position degree : 282.0 tolerance degree : + 4.0   rack travel mm : 12.90  Rated speed rpm : 1053  Tolerance 1/min : + 8
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : 1	300 2.38 0.10	RATED SPEED  control lever position degree : 282.0 tolerance degree : + 4.0  rack travel mm : 12.90 Rated speed rpm : 1053 Tolerance 1/min : + 8  rack travel mm : 4.00
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +-  Rated speed rpm : 1 guide sleeve travel mm : Tolerance mm : +-	300 2.38 0.10 060 7.31 0.10	control lever position degree : 282.0 tolerance degree : + 4.0  rack travel mm : 12.90 Rated speed rpm : 1053 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1150
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : 1 Rated speed rpm : +  Rated speed rpm : 1 Rated speed rpm : +	300 2.38 0.10 060 7.31	RATED SPEED  control lever position degree : 282.0 tolerance degree : + 4.0  rack travel mm : 12.90 Rated speed rpm : 1053 Tolerance 1/min : + 8  rack travel mm : 4.00
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve : 1	300 2.38 0.10 060 7.31 0.10	control lever position degree : 282.0 tolerance degree : + 4.0  rack travel mm : 12.90 Rated speed rpm : 1053 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-	300 2.38 0.10 060 7.31 0.10 000 7.00	RATED SPEED  control lever position degree : 282.0 tolerance degree : + 4.0  rack travel mm : 12.90 Rated speed rpm : 1053 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15  rack travel mm : 0.50
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-	300 2.38 0.10 060 7.31 0.10	RATED SPEED  control lever position degree : 282.0 tolerance degree : + 4.0 rack travel mm : 12.90 Rated speed rpm : 1053 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Tolerance mm : +-	300 2.38 0.10 060 7.31 0.10 000 7.00 0.10	RATED SPEED  control lever position degree : 282.0 tolerance degree : + 4.0  rack travel mm : 12.90 Rated speed rpm : 1053 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15  rack travel mm : 0.50
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : +-  Rated speed rpm : +-	300 2.38 0.10 060 7.31 0.10 000 7.00	RATED SPEED  control lever position degree : 282.0 tolerance degree : + 4.0 rack travel mm : 12.90 Rated speed rpm : 1053 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm :  Ra	300 2.38 0.10 060 7.31 0.10 000 7.00 0.10	control lever position degree : 282.0 tolerance degree : + 4.0  rack travel mm : 12.90 Rated speed rpm : 1053 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1260
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : quide sleeve travel mm : +-	300 2.38 0.10 060 7.31 0.10 000 7.00 0.10 388 5.48	RATED SPEED  control lever position degree : 282.0 tolerance degree : + 4.0 rack travel mm : 12.90 Rated speed rpm : 1053 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : guide sleeve travel mm : +-	300 2.38 0.10 060 7.31 0.10 000 7.00 0.10	control lever position degree : 282.0 tolerance degree : + 4.0  rack travel mm : 12.90 Rated speed rpm : 1053 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1260
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : Tolerance mm : +  Rated speed rpm : guide sleeve travel mm : +  Rated speed rpm : guide sleeve travel mm : +  Tolerance mm : +	300 2.38 0.10 060 7.31 0.10 000 7.00 0.10 388 5.48 0.10	control lever position degree : 282.0 tolerance degree : + 4.0  rack travel mm : 12.90 Rated speed rpm : 1053 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1260  LOW IDLE
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : +-  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : Tolerance mm : +-  Rated speed rpm :  Rated speed rpm :  Rated speed rpm :  Rated speed rpm :  Rated speed rpm :	300 2.38 0.10 060 7.31 0.10 000 7.00 0.10 388 5.48 0.10	control lever position degree : 282.0 tolerance degree : + 4.0  rack travel mm : 12.90 Rated speed rpm : 1053 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1260  LOW IDLE  control lever
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : guide sleeve rpm : guide sleeve	300 2.38 0.10 060 7.31 0.10 000 7.00 0.10 388 5.48 0.10	control lever position degree : 282.0 tolerance degree : + 4.0  rack travel mm : 12.90 Rated speed rpm : 1053 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : 0.50 Rated speed rpm : 1260  LOW IDLE  control lever position degree : 257.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : guide sleeve travel mm : +-	300 2.38 0.10 060 7.31 0.10 000 7.00 0.10 388 5.48 0.10 470 7.00	control lever position degree : 282.0 tolerance degree : + 4.0  rack travel mm : 12.90 Rated speed rpm : 1053 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1260  LOW IDLE  control lever
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : guide sleeve rpm : guide sleeve	300 2.38 0.10 060 7.31 0.10 000 7.00 0.10 388 5.48 0.10	control lever position degree : 282.0 tolerance degree : + 4.0  rack travel mm : 12.90 Rated speed rpm : 1053 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : 0.50 Rated speed rpm : 1260  LOW IDLE  control lever position degree : 257.0

Testing:
Rated speed rpm rack travel mm Tolerance mm
rack travel mm Rated speed rpm Tolerance 1/min
Rated speed rpm
CRT mm min.
TORQUE CONTROL
Rated speed rpm rack travel mm Tolerance mm
Rated speed rpm

700 13.90 : +- 0.05

: >

300

6.30 0.10

2.00

20

370

200

9.80

1000 13.90 rack travel mm Tolerance mm : ← 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm 500 Pressure hPa 1200 13.90 rack travel mm : +- 0.05 Tolerance mm

**MEASUREMENT** 

Pressure hPa Rated speed rpm 500 rack travel mm 11.45 Tolerance mm : +- 0.15

Rated speed rpm 500

Pressure hPa 120 : 11.75 rack travel mm : +- 0.05 Tolerance mm

Pressure hPa 450 13.35 rack travel mm : +- 0.15 Tolerance mm

START CUT-OUT

: < Rated speed rpm 220 Check 240 speed 1/min : <

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 1200 Rated speed rpm 1000

Del. quantity

cm3/1000 strokes : 213.0

Tolerance

cm3/1000 strokes 3.0 Check tolerance

cm3/1000s. 6.0

Aneroid pressure

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 123.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. 4.0

**BREAKAWAY** 

12.90 Rack travel in mm: Rated speed rpm : 1053 Tolerance 1/min

STARTING FUEL DELIVERY

Rated speed rpm 100

Del. quantity

cm3/1000 strokes : 230.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. : + 14.0

LOW IDLE

300 Rated speed rpm 6.30 rack travel mm 0.20 Tolerance mm Del. quantity cm3/1000 strokes : 20.0

Tolerance

cm3/1000 strokes 3.0 : +-

Check tolerance

cm3/1000s. : +-6.0

Spreed

Tolerance : 8.0 Check tolerance cm3/1000s. : 12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 16.08.95 Edition : ISO 4113 Test oil

Combination No. : 0 402 044 700

Injection pump

Pump designation : PES4P110A320RS3350 EP type number : 0 412 014 700

Governor

Governer design. : RQV350...1400PA1221K Governer no. : 0 421 815 472

Cust. part No. : 16700-D8703 / M

: -2004

Customer-spec. information

: NMI Customer

: B4.40 EURO II Motor

: 101.0 Power KW

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 Tolerance bar 1.5

Test lines : 1 680 750 008

6.0 Outside diameter :

x inside diameter: 2.0 x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm Tolerance mm : + 0.05

: **←** 0.10 test only

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

: 4-2-1-3 Firing order

: 0-90-180-270 Phasing Tolerance : + 0.30

Check

tolerance \*NW : + 0.50

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 15.40 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 178.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

Check tolerance

cm3/1000s. 3.0

Spreed Tolerance

cm3/1000 strokes : 5.0

Check tolerance		1
cm3/1000s.	: 9.0	
		+ FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm	: 350	+
	0.50	+ Rated speed rpm : 1300
Rack travel in mm		+ Aneroid pressure
Tolerance mm	: <b></b> 0.30	+ hPa : 1500
Del. quantity cm3/1000 strokes	: 31.0	+ Del. quantity + cm3/1000 strokes : 178.0
Tolerance	. 31.0	+ Tolerance
cm3/1000 strokes	: +- 2.5	+ cm3/1000 strokes : + 1.0
Check tolerance		+ Check tolerance
cm3/1000s.	: ← 5.0	+ cm3/1000s. : $+$ 3.0
Spreed		+ Spreed
Tolerance	4.0	+ Tolerance
cm3/1000 strokes	: 6.0	+ cm3/1000 strokes : 5.0
Check tolerance cm3/1000s.	: 10.0	+ Check tolerance + cm3/1000s. : 9.0
CIID/ IUUUS.	: 10.0	T CIIS/10003. : 9.0
(B) SETTING OF IN	JECTION PUMP	+ RATED SPEED
WITH GOVERNOR		+
		†
CHINE CLEENE TOAN	rei	control lever
GUIDE SLEEVE TRAV	EL	<pre>+ position degree : 65.0 + tolerance degree : + 4.0</pre>
Rated speed rpm	: 350	T toterance degree . 4.0
guide sleeve	. 350	+ control lever
travel mm	: 1.46	position degree : 122.0
Tolerance mm	: + 0.20	+ tolerance degree : + 4.0
		+
Rated speed rpm	: 1417	+ rack travel mm : 14.40
guide sleeve	0.00	Rated speed rpm : 1410
travel mm	: 9.99 : ← 0.15	Tolerance 1/min : + 5
Tolerance mm	: 10.15	† + rack travel mm : 4.00
Rated speed rpm	: 994	Rated speed rpm : 1585
guide sleeve	. //4	Tolerance 1/min : + 15
travel mm	: 6.77	1
Tolerance mm	: + 0.25	rack travel mm : 0.50
		+ Tolerance mm : + 0.50
Rated speed rpm	: 610	Rated speed rpm : 1640
accide al anco		+
travel mm	: 3.96	1011 701 5
Tolerance mm	: +- 0.25	+ LOW IDLE
Rated speed rpm	• 1730	I
		T control lever
guide steeve travel <b>mm</b>	: 13.50	position degree : 82.0
Tolerance mm	: + 0.50	+ tolerance degree : + 4.0
-		+
		- + control lever
GUIDE SLEEVE POSI	TION	+ position degree : 26.0
D. 4 - 3	. 4545	tolerance degree : +- 4.0
Rated speed rpm	: 1515	Tooting
Pack traval in	• 1/, 50	† Testing:
Rack travel in mm Tolerance mm	· + 1 30	Rated speed rpm : 350
COCCI GLICE THIS		rack travel mm : 9.50
		+ rack travel mm : 9.50 + Tolerance mm : +- 0.10
		1

Rated speed rpm	: 250	+ Check + speed 1/min : > 290
CRT mm min.		<u> </u>
		FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 500	Aneroid pressure
TODOUE CONTROL	<u> </u>	
TORQUE CONTROL		+ Rated speed rpm : 780 + Del. quantity
Rated speed rpm	: 1300	+ cm3/1000 strokes : 154.0
rack travel mm Tolerance mm	: 15.40 : + 0.05	+ Tolerance + cm3/1000 strokes : +- 2.0
		† Check tolerance
Rated speed rpm rack travel mm	: 780 : 13.70	+ cm3/1000s. : + 5.0 + Spreed
Tolerance mm		+ Tolerance
Baka Laurad ana	. 4000	+ cm3/1000 strokes : 8.0
Rated speed rpm rack travel mm	: 1000 : 14.30	+ Check tolerance + cm3/1000s. : 12.0
rack travel mm Tolerance mm	: <b>←</b> 0.20	+
Dated speed rom	• 1250	+ Aneroid pressure + hPa : 1500
Rated speed rpm rack travel mm	: 15.40	Rated speed rpm : 1000
Tolerance mm	: + 0.10	† Del. quantity + cm3/1000 strokes : 165.0
<del></del>		+ cm3/1000 strokes : 165.0 + Tolerance
ANEROID/ALTITUDE		+ cm3/1000 strokes : + 3.0
COMPENSATOR TEST		+ Check tolerance + cm3/1000s. : +- 6.0
		+
SETTING		+ Aneroid pressure + hPa : -
Rated speed rpm	: 1300	Rated speed rpm : 500
Pressure hPa	: 1500	+ Del. quantity
rack travel mm Tolerance mm		+ cm3/1000 strokes : 136.0 + Tolerance
		+ cm3/1000 strokes : +- 1.0
MEASUREMENT		+ Check tolerance + cm3/1000S. : +- 4.0
Pressure hPa	: -	T Cho/ 10003.
Rated speed rpm		DDCAKALAV
rack travel mm Tolerance mm		+ BREAKAWAY
		†
Rated speed rpm	: 1300	+ Rack travel in mm : 14.40 + Rated speed rpm : 1410
Pressure hPa	: 940	+ Tolerance 1/min : +- 5
rack travel mm Tolerance mm	: 14.45 : + 0.10	†
roterance min		
Pressure hPa	: 520	STARTING FUEL DELIVERY
rack travel mm Tolerance mm	: 13.25 : +- 0.05	Rated speed rpm : 100
		+ Del. quantity
START CUT-OUT		
SIMKI CUITOUI		+ cm3/1000 strokes : +- 15.0
Rated speed rpm	: > 270	Check tolerance cm3/1000s. : +- 19.0
		+ cm3/1000s. : +- 19.0

# LOW IDLE

Rated speed rpm	: 3	350
rack travel mm	:	9.50
Tolerance mm	; +-	0.30
Del. quantity		
cm3/1000 strokes	:	31.0
Tolerance		
cm3/1000 strokes	: +-	2.5
Check tolerance		
cm3/1000s.	: +-	5.0
Spreed		
Tolerance		
cm3/1000 strokes	:	6.0
Check tolerance	-	
cm3/1000s.	:	10.0
	•	

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.07.95 Test oil : ISO 4113

Combination No. : 0 402 046 865

Injection pump

Pump designation : PES6P120A320LS3321

: -1

EP type number : 0 412 026 776

Governor

Governer design. : RQ275/950PA1085-1

Governer no. : 0 421 801 761

Cust. part No. : 645 625

Customer—spec. information Customer : RABA

Motor : SIEHE BEMERKUNG

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

Test lines

bar : 208.5 Tolerance bar : + 1.5

: 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

#### REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05

test only  $: \leftarrow 0.10$ 

Rack travel in mm : 12.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

#### BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 14.60 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 193.0

Tälerance cm3/1000 strokes	: + 1.0	Rated speed rpm : 1170 guide sleeve
Check tolerance cm3/1000s.	: + 4.0	travel mm : 11.50 Tolerance mm : + 0.50
Spreed Tolerance cm3/1000 strokes	: 5.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s.	9.0	Rated speed rpm : 500  Rack travel in mm : 20.00
Rated speed rpm	: 275	Tolerance mm : + 0.80
Rack travel in mo		FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes	: 24.0	Rated speed rpm : 600 Aneroid pressure
Tolerance cm3/1000 strokes Check tolerance	: + 3.0	hPa : - Del. quantity cm3/1000 strokes : 193.0
cm3/1000s. Spreed	: + 6.0	Tolerance cm3/1000 strokes : +- 1.0
Tolerance cm3/1000 strokes Check tolerance	: 8.0	Check tolerance cm3/1000s. : +- 4.0 Spreed
cm3/1000s.	: 12.0	Tolerance cm3/1000 strokes : 5.0
(B) SETTING OF IN	JECTION PUMP	Check tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAV	<u></u>	RATED SPEED
	+	control lever
Rated speed rpm guide sleeve	: 275	position degree : 37.0
travel mm Tolerance mm	: 2.85 : + 0.10	tolerance degree : +- 4.0
Rated speed rpm guide sleeve	: 1003	<pre>control lever position degree : 99.0 tolerance degree : +- 4.0</pre>
travel mm Tolerance mm	: 6.55 : ← 0.10	rack travel mm : 13.60
Rated speed rpm guide sleeve	: 950	Rated speed rpm : 995 Tolerance 1/min : +- 5
travel mm Tolerance mm	: 6.00 : + 0.10	rack travel mm : 4.00 Rated speed rpm : 1090
Rated speed rpm guide sleeve	: 369	Tolerance 1/min : + 15 rack travel mm : 0.50
travel mm Tolerance mm	: 5.24 : + 0.10	Tolerance mm : + 0.50 Rated speed rpm : 1200
Rated speed rpm	: 440	LOW IDLE
guide sleeve travel mm Tolerance mm	: 6.00 : +- 0.10	COM INCL
	,	

control lever	: 75.0	rack travel mm : 13.80 Tolerance mm : + 0.05
tolerance degree		FUEL DELIVERY CHARACTERISTICS
position degree tolerance degree Testing:	: +- 4.0	Aneroid pressure hPa : - Rated speed rpm : 950
Rated speed rpm rack travel mm Tolerance mm	: 5.70	Del. quantity cm3/1000 strokes : 185.0 Tolerance cm3/1000 strokes : + 3.0
rack travel mm Rated speed rpm	: 2.00	Check tolerance cm3/1000s. : +- 6.0
Tolerance 1/min Rated speed rpm	: <del></del> 20	Aneroid pressure  hPa : - Rated speed rpm : 500
CRT mm min.	: > 8.30	+ Del. quantity + cm3/1000 strokes : 114.0 + Tolerance + cm3/1000 strokes : + 2.0
TORQUE CONTROL Rated speed rpm	: 600	Check tolerance cm3/1000s. : + 4.0
rack travel mm Tolerance mm	: 14.60 : + 0.05	BREAKAWAY
Rated speed rpm rack travel mm Tolerance mm	: 14.60	Rack travel in mm: 13.60 Rated speed rpm: 995 Tolerance 1/min: + 5
ANEROID/ALTITUDE COMPENSATOR TEST		STARTING FUEL DELIVERY
SETTING  Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 900 : 14.60 : ← 0.05	Rated speed rpm : 100  Del. quantity  cm3/1000 strokes : 154.0  Tolerance  cm3/1000 strokes : + 20.0  Characterance
MEASUREMENT		+ cm3/1000s. : +- 24.0 +
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 12.40 : + 0.20	LOW IDLE
Rated speed rpm	: 500	+ Rated speed rpm : 275 + rack travel mm : 5.70 + Tolerance mm : + 0.30
Pressure hPa rack travel mm Tolerance mm	: 240 : 13.10 : + 0.15	Del. quantity + cm3/1000 strokes : 24.0 + Tolerance
Pressure hPa	: 350	+ cm3/1000 strokes : +- 3.0 +

Check tolerance cm3/1000s. : +- 6.0

Spreed
Tolerance
cm3/1000 strokes : 8.0

Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 31.08.95 Test oil : ISO 4113

Combination No. : 0 402 618 809

Injection pump

Pump designation : PE8P12OA500/5RS7387

EP type number : 0 412 628 911

Governor

Governer design. : Governer no. :

Cust. part No. : 12277648KY0120-17

Customer-spec. information

Customer : MWM

Motor : TBD 616-V16

Power KW : 864.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 180 Tolerance l/h : + 10.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.65
Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 13.00Tolerance mm : +-0.50

Firing order : 1-2-5-6-3-4

: - 7- 8

Phasing : 0-30-45-75-270-300

: -315-345 : +- 0.30

Check

Tolerance

tolerance \*NW : +- 0.50

Start of delivery mark

Barrel no. : 1

#### BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 12.60
Tolerance mm : + 0.05

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 262.0

\_\_\_\_\_

Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1000s.	: + 4.0
Spreed Tolerance cm3/1000 strokes	: 6.0
Check tolerance cm3/1000s.	: 9.0
Rated speed rpm	: 300
Rack travel in mr Tolerance mm Del. quantity	n: 6.40 : + 0.10
cm3/1000 strokes Tolerance	: 38.0
cm3/1000 strokes Check tolerance	<b>:</b> ← 3.0
cm3/1000s. Spreed	: +- 6.0
Tolerance	: 6.0
cm3/1000 strokes	• •••
cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR	: 10.0
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR	: 10.0 NJECTION PUMP
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  FULL LOAD DELIVER	: 10.0  NJECTION PUMP  RY AT FULL LOAD STOP
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  FULL LOAD DELIVER Rated speed rpm	: 10.0  NJECTION PUMP  RY AT FULL LOAD STOP
Check tolerance cm3/1000s.  (B) SETTING OF IN WITH GOVERNOR  FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa	: 10.0  NJECTION PUMP  RY AT FULL LOAD STOP
Check tolerance cm3/1000s.  (B) SETTING OF IN WITH GOVERNOR  FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	: 10.0 NJECTION PUMP  RY AT FULL LOAD STOP : 1150 : -
Check tolerance cm3/1000s.  (B) SETTING OF IN WITH GOVERNOR  FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	: 10.0 NJECTION PUMP  RY AT FULL LOAD STOP : 1150 : -
Check tolerance cm3/1000s.  (B) SETTING OF IN WITH GOVERNOR  FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 10.0  NJECTION PUMP  RY AT FULL LOAD STOP  : 1150  : -  : 262.0  : +- 1.0
Check tolerance cm3/1000s.  (B) SETTING OF IN WITH GOVERNOR  FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 10.0 NJECTION PUMP  RY AT FULL LOAD STOP  : 1150  : -  : 262.0
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 10.0  NJECTION PUMP  RY AT FULL LOAD STOP  : 1150  : -  : 262.0  : + 1.0  : + 4.0
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 10.0  NJECTION PUMP  RY AT FULL LOAD STOP  : 1150  : - : 262.0 : + 1.0 : + 4.0  : 6.0
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: 10.0  NJECTION PUMP  RY AT FULL LOAD STOP  : 1150  : -  : 262.0  : + 1.0  : + 4.0
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 10.0  NJECTION PUMP  RY AT FULL LOAD STOP  : 1150  : - : 262.0 : + 1.0 : + 4.0  : 6.0

	IVERY
Rated speed rpm	: 100
rack travel mm	: 16.50 : +- 0.50
Tolerance mm Del. quantity	: +- 0.50
cm3/1000 strokes	: 347.0
Tolerance	. 511.0
cm3/1000 strokes	: +- 14.0
Check tolerance	
cm3/1000s.	: +- 20.0
LOW IDLE Rated speed rpm	: 300
rack travel mm	: 300 : 6.40
Tolerance mm	: <b>←</b> 0.10
Del. quantity	
cm3/1000 strokes	: 38.0
Tolerance cm3/1000 strokes	: <del>+-</del> 3.0
Check tolerance	
cm3/1000s.	: +- 6.0
Spreed	
Folerance cm3/1000 strokes	: 6.0
Check tolerance	. 0.0
	: 10.0
m3/1000s.	

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

: 23.08.95 Edition : ISO 4113 Test oil

Combination No. : 0 402 640 839

Injection pump

Pump designation : PE12P12OA52OLS7829

: -1

EP type number : 0 412 620 827

Governor

Governer design. : RQV300...1150PA1039K

Governer no. : 0 421 815 314

Cust. part No. : 3-7227

Customer—spec. information

Customer : MAN

: D2842LE402 Motor

Power KW : 809.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : + 2.0 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : +-

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 Tolerance bar 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 2.5

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

: 4.55 Prestroke mm : +- 0.05 Tolerance mm

: **←** 0.10 test only

Rack travel in mm: 10.50 Tolerance mm : ← 1.50

Firing order

: 12- 1- 5- 9- 8 : - 3- 4- 11- 10 : - 2- 6- 7

Phasing : 0-45-60-105-120

: -165-180-225-240

: -285-300-345 : + 0.30

Tolerance

Check : **←** 0.50 tolerance \*NW

Start of delivery blocking

Barrel no. : 12

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 14.55 : + 0.05Tolerance mm

Del. quantity

cm3/1000 strokes : 338.0

Tolerance

cm3/1000 strokes : +- 1.0

+	-
Check tolerance cm3/1000s. : + 4.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed	- Rated speed rpm : 1150
Tolerance cm3/1000 strokes : 5.0	- Aneroid pressure - hPa : 1500
Check tolerance	- Del. quantity - cm3/1000 strokes : 338.0
cm3/1000s. : 9.0	- Tolerance - cm3/1000 strokes : +- 1.0
(D) CETTING OF THE CTTON DIME	- Check tolerance
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	- cm3/1000s. : +- 4.0 - Spreed - Tolerance
	cm3/1000 strokes : 5.0
GUIDE SLEEVE TRAVEL	- Check tolerance - cm3/1000s. : 9.0
Rated speed rpm : 300 + guide sleeve +	-
travel mm : 2.24	RATED SPEED
Tolerance mm : +- 0.25	•
Rated speed rpm : 1206	control lever
guide steeve	position degree : 120.0
travel mm : 10.43 + Tolerance mm : + 0.25 +	tolerance degree : +- 4.0
1000, 01100 11111	rack travel mm : 13.80
Rated speed rpm : 795	Rated speed rpm : 1203
guide sleeve	Tolerance 1/min : + 8
travel mm : 6.88	,
Tolerance mm : + 0.25	rack travel mm : 4.00 Rated speed rpm : 1345
Rated speed rpm : 329 guide sleeve	Tolerance 1/min : + 15
travel mm : 2.75	rack travel mm : 0.50
Tolerance mm : $\leftarrow$ 0.25	Tolerance mm : + 0.50
Rated speed rpm : 379	Rated speed rpm : 1450
guide sleeve + travel mm : 3.53 +	LOW IDLE
Tolerance mm : + 0.25	
Rated speed rpm : 450	control lever
guide sleeve +	position degree : 75.0
travel mm : 4.21 + Tolerance mm : + 0.25 +	tolerance degree : +- 4.0
roterance min : += 0.25	Testing:
Rated speed rpm : 1450	-
guide sleeve +	Rated speed rpm : 300
travel mm : 13.50	rack travel mm : 6.80
Tolerance mm : + 0.50	Tolerance mm : + 0.10
GUIDE SLEEVE POSITION	Rated speed rpm : 200
+	CRT mm min. :> 8.30
Rated speed rpm : 1265 +	Rated speed rpm : 330
Rack travel in mm : 13.70 + Tolerance mm : + 2.00 +	·

		+ Tolerance	
TORQUE CONTROL		+ cm3/1000 strokes : +- + Check tolerance	3.0
TORROL CONTROL			6.0
Rated speed rpm	: 1150_	+ Spreed	
rack travel mm	: 14.55	+ Tolerance	0.0
Tolerance mm	: +- 0.05	cm3/1000 strokes : 1 Check tolerance	0.0
Rated speed rpm	: 700		4.0
rack travel mm	: 13.30	+	7.0
Tolerance mm	: <b>←</b> 0.10	+ Aneroid pressure	
D.A. d	000	+ hPa : 150	
Rated speed rpm rack travel mm		+ Rated speed rpm : 90 + Del. quantity	U
Tolerance mm			0.0
		+ Tolerance	
			3.0
ANEROID/ALTITUDE		+ Check tolerance	
COMPENSATOR TEST		+ cm3/1000s. : +-	6.0
		Aneroid pressure	
SETTING		+ hPa :	
		+ Rated speed rpm : 50	0
Rated speed rpm	: 1150	+ Del. quantity	0.0
Pressure hPa rack travel mm	: 1500 : 14.55	+ cm3/1000 strokes : 170 + Tolerance	0.0
Tolerance mm	: +- 0.05		1.0
rocci di loc ilan		- Check tolerance	,
MEASUREMENT			4.0
		Spreed	
Pressure hPa	: – : 1150	+ Tolerance + cm3/1000 strokes :	8.0
Rated speed rpm rack travel mm	: 10.00	+ cm3/1000 strokes : {	5.0
Tolerance mm	: +- 0.10		2.0
		+	
Rated speed rpm	: 1150	5554/4114	
Pressure hPa	: 850	† BREAKAWAY	
rack travel mm	: 12.55	I	
Tolerance mm	: + 0.15	Rack travel in man: 13	.80
		+ Rated speed rpm : 120	
Pressure hPa	: 400	+ Tolerance 1/min : +-	8
rack travel mm Tolerance mm	: 10.35 : +- 0.05	†	
roterance mm	: +- 0.03	I	
		STARTING FUEL DELIVERY	
START CUT-OUT		+	
<b></b>	0.0	+ Rated speed rpm : 100	3
Rated speed rpm	: < 240	+ Del. quantity + cm3/1000 strokes : 110	0.0
Check speed 1/min	: < 260	+ cm3/1000 strokes : 110 + Tolerance	J. U
Opeca 17111111		+ cm3/1000 strokes : +- 10	0.0
<u></u>		+ Check tolerance	
FUEL DELIVERY CHA	RACTERISTICS	+ cm3/1000s. : +- 14	4.0
Anonoid process		1	
Aneroid pressure hPa	: 1500	Ţ	
Rated speed rpm	: 700	1	
Del. quantity		+	
cm3/1000 strokes	: 290.0	+	

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.06.95 Test oil : ISO 4113

Combination No. : 0 402 646 604

Injection pump

Pump designation : PE6P120A720RS7188

: -10

EP type number : 0 412 626 924

Governor

Governer design. : RQV350...1050PA795

: -13

Governer no. : 0 421 814 017

Cust. part No. : 1337549

Customer-spec. information

Customer : SCANIA

Motor : DS11 Alivary

#### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration

damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

#### REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45 Tolerance mm : +- 0.05

test only : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.30

Check

tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.35

Tolerance mm : + 0.05

Del. quantity + cm3/1000 strokes : 236.0	Check tolerance cm3/1000s. : 12.0
Tolerance cm3/1000 strokes : +- 1.0	RATED SPEED
Check tolerance cm3/1000s. : + 4.0	control lever position degree : 45.0
Spreed Tolerance cm3/1000 strokes : 8.0	tolerance degree : +- 4.0
Check tolerance	position degree : 102.0 tolerance degree : + 4.0
cm3/1000s. : 12.0 +	rack travel mm : 12.30 Rated speed rpm : 1095
Rack travel in mm: 4.70	Tolerance 1/min : +- 5
Tolerance mm : + 0.30 + Del. quantity + cm3/1000 strokes : 19.0 +	rack travel mm : 4.00 Rated speed rpm : 1230 Tolerance 1/min : +- 15
Tolerance + 3.0 + Check tolerance +	rack travel mm : 0.50 Tolerance mm : + 0.50
cm3/1000s. : + 6.0 + Spreed	Rated speed rpm : 1350
Tolerance + cm3/1000 strokes : 4.0 + Check tolerance +	LOW IDLE
cm3/1000s. : 8.0	control lever position degree : 72.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	tolerance degree : +- 4.0
<u> </u>	<pre>control lever position degree : 15.0 tolerance degree : +- 4.0</pre>
GUIDE SLEEVE POSITION  Rated speed rpm : 1280	Testing:
Rack travel in mm: 12.00 Tolerance mm: + 1.00	Rated speed rpm : 350 rack travel mm : 4.70 Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 250
Rated speed rpm : 700	CRT mm min. :> 8.00
Aneroid pressure + + + + + + + + + + + + + + + + + + +	Rated speed rpm : 300
Del. quantity cm3/1000 strokes : 236.0 Tolerance	TORQUE CONTROL
cm3/1000 strokes : + 1.0 + Check tolerance	Rated speed rpm : 700 rack travel mm : 13.35
cm3/1000s. : +- 4.0 Spreed Tolerance	Tolerance mm : + 0.05  Rated speed rpm : 1050
cm3/1000 strokes : 8.0	rack travel mm : 13.35

***************************************		<u>.</u> .
ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 13.35 : +- 0.05	
MEASUREMENT		
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 10.40 : ← 0.20	
Rated speed rpm	: 500	•
Pressure hPa rack travel mm Tolerance mm	: 440 : 12.05 : + 0.05	•
Pressure hPa rack travel mm Tolerance mm	: 270 : 11.00 : + 0.15	
FUEL DELIVERY CHA	RACTERISTICS	•
Aneroid pressure hPa	: -	•
Rated speed rpm Del. quantity	: 1050	
cm3/1000 strokes Tolerance cm3/1000 strokes	: 215.0 : +- 4.0	-
Check tolerance cm3/1000s.	: +- 6.0	-
Aneroid pressure		-
hPa Rated speed rpm	500	7
Del. quantity cm3/1000 strokes	: 153.0	-
Tolerance cm3/1000 strokes	: <b>←</b> 1.0	-
Check tolerance cm3/1000S.	: +- 4.0	1 1 1
BREAKAWAY		1

Rated speed rpm : 1095 Tolerance 1/min : +- 5

## STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 10.40 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 170.0 Tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s. : + 24.0

## LOW IDLE

Rated speed rpm : 350 rack travel mm 4.70 Tolerance mm : +- 0.30 Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance 8.0 cm3/1000s.

End of test specification sheet

Rack travel in mm : 12.30

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.07.95 Test oil : ISO 4113

Combination No. : 0 402 646 627

## Injection pump

Pump designation : PE6P120A320RS7297

: -10

EP type number : 0 412 626 921

Governor

Governer design. : RQV350...1100PA795

: -12

Governer no. : 0 421 813 914

Cust. part No. : 1340653

Customer—spec. information Customer : SCANIA Motor : DSC 909

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration

damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 210 Tolerance L/h : + 20.0

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

#### REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values \_\_\_\_\_

#### BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

test only : - 0.10

Rack travel in mm : 13.00 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : ← 0.30 Check

uneck

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.50

#### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.25 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 205.0	Check tolerance : 12.0
Tolerance cm3/1000 strokes : +- 1.0	- RATED SPEED
Check tolerance cm3/1000s. : +- 4.0	control lever 47.0
Spreed Tolerance cm3/1000 strokes : 8.0	tolerance degree : + 4.0  control lever
Check tolerance cm3/1000s. : 12.0	position degree : 106.0 tolerance degree : + 4.0
Rated speed rpm : 250	rack travel mm : 12.20 Rated speed rpm : 1145 Tolerance 1/min : +- 5
Rack travel in mm: 4.90	•
Tolerance $m : \leftarrow 0.30$	rack travel mm : 4.00
Del. quantity	Rated speed rpm : 1270
cm3/1000 strokes : 26.0	Tolerance 1/min : + 15
Tolerance +	
cm3/1000 strokes : + 3.0 +	rack travel mm : 0.50
Check tolerance	Tolerance mm : + 0.50
cm3/1000s. : + 6.0 + 5preed	Rated speed rpm : 1400
Tolerance	
cm3/1000 strokes : 4.0 + Check tolerance	LOW IDLE
cm3/1000s. : 8.0	
11107 100000	control lever
1	position degree : 68.0
(B) SETTING OF INJECTION PUMP	tolerance degree : + 4.0
WITH GOVERNOR +	
+	control lever
<del> </del>	position degree : 11.0
	tolerance degree : +- 4.0
GUIDE SLEEVE POSITION +	
Rated speed rpm : 1300 +	Testing:
+	Rated speed rpm : 250
Rack travel in mm: 12.00 +	rack travel mm : 4.90
Tolerance mm : + 1.30 +	Tolerance mm : + 0.10
	Rated speed rpm : 150
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min. :> 6.40
Rated speed rpm : 700	
Aneroid pressure +	Rated speed rpm : 250
hPa : -	
Del. quantity + cm3/1000 strokes : 205.0 +	TORQUE CONTROL
Tolerance	<b>.</b>
cm3/1000 strokes : + 1.0	Rated speed rpm : 1100
Check tolerance +	rack travel mm : 13.25
cm3/1000s. : + 4.0 +	Tolerance mm : + 0.05
Spreed +	
Tolerance +	
cm3/1000 strokes : 8.0 +	

## ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

500 Rated speed rpm Pressure hPa 1500 rack travel mm 13.25 Tolerance mm : +- 0.05

#### **MEASUREMENT**

Pressure hPa 500 Rated speed rpm 11.00 rack travel mm : +- 0.20 Tolerance mm

500 Rated speed rpm

470 Pressure hPa 11.95 rack travel mm Tolerance mm : +- 0.15

670 Pressure hPa 12.85 rack travel mm : +- 0.05 Tolerance mm

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm : 1100

Del. quantity cm3/1000 strokes : 183.0

Tolerance

cm3/1600 strokes : +-4.0

Check tolerance

cm3/1000s. 6.0

Aneroid pressure

hPa Rated speed rpm 500 Del. quantity

cm3/1000 strokes : 170.0 Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000S.: +-4.0

## BREAKAWAY

12.20 Rack travel in mm: Rated speed rpm : 1145

## STARTING FUEL DELIVERY

Rated speed rpm 100 20.50 : rack travel mm Tolerance mm : +- 0.50 Del. quantity cm3/1000 strokes : 265.0 Tolerance cm3/1000 strokes :  $\leftarrow$  20.0 Check tolerance cm3/1000s. : +- 24.0

#### LOW IDLE

250 Rated speed rpm 4.90 rack travel mm Tolerance mm 0.30 Del. quantity cm3/1000 strokes : 26.0 Tolerance cm3/1000 strokes :  $\leftarrow$  3.0 Check tolerance cm3/1000s.6.0 : +-Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1090s. 8.0

Note remarks

Refer to Service Info for test and

adjustment instructions. See microcard(s) W400/...

: 20.06.95 Edition Test oil : ISO 4113

Combination No. : 0 402 646 630

Injection pump

Pump designation : PE6P120A720RS7302

: -10

: 0 412 626 928 EP type number

Governor

Governer design. : RQ200/950PA745-6

Governer no. : 0 421 801 702

Cust. part No. : 1354204

Customer-spec. information

: SCANIA Customer Motor : DS 11 78

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration

damper

(RoBo diaphragm): 3.1

Test oil inlet

temp. °C 40

Tolerance °C 2.0

: 1 417 413 025 Overflow valve

Inlet press. bar : 2.5

Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

251.5 bar

Tolerance bar : +- 1.5 Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

600 x length mm :

**REMARKS** 

Start-of-delivery setting with ROBO

diaphragm.

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : **←** 0.05 Tolerance mm

test only  $: \leftarrow 0.10$ 

Rack travel in mm: 13.00 Tolerance mm :  $\leftarrow$  0.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance : **←** 0.30

Check

tolerance \*NW : + - 0.50

BASIC SETTING

700 Rated speed rpm :

Rack travel in mm: 13.35

: +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 171.0

Tolerance

cm3/1000 strokes : +- 1.0

		1
		fuide sleeve
Check tolerance cm3/1000S.	: +- 4.0	travel mm : 5.50 Tolerance mm : + 0.10
Spreed		
Tolerance		+ guide sleeve
cm3/1000 strokes	: 8.0	travel mm : 11.50 Tolerance mm : + 0.50
Check tolerance	<del></del>	
cm3/1000s.	: 12.0	
	050	† GUIDE SLEEVE POSITION
Rated speed rpm	: 250	+ Rated speed rpm : 600
Rack travel in m	n: 4.50	+
Tolerance mm	: +- 0.30	+ Rack travel in mm : 16.50
Del. quantity		+ Tolerance mm : + 1.30
cm3/1000 strokes	: 16.0	` ‡
Tolerance		<del> </del>
cm3/1000 strokes	: +- 3.0	+ FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance		<del>}</del>
cm3/1000s.	: +- 6.0	Rated speed rpm : 700
Spreed		+ Aneroid pressure
Tolerance		+ hPa : -
cm3/1000 strokes	: 4.0	+ Del. quantity
Check tolerance		+ cm3/1000 strokes : 171.0
cm3/1000s.	: 8.0	+ Tolerance
		+ cm3/1000 strokes : + 1.0
		+ Check tolerance
(B) SETTING OF IN	VIECTION PUMP	+  cm3/1000s. : + 4.0
WITH GOVERNOR		
		→ SDreea
MILL GOVERNOR		+ Spreed + Tolerance
WITH GOVERNOR		+ Tolerance
		Tolerance
GUIDE SLEEVE TRAN		+ Tolerance
GUIDE SLEEVE TRAN		Tolerance + cm3/1000 strokes : 8.0 + Check tolerance
GUIDE SLEEVE TRAN	: 250	Tolerance
GUIDE SLEEVE TRAN	: 250 : 1.41	Tolerance + cm3/1000 strokes : 8.0 + Check tolerance
GUIDE SLEEVE TRAN	: 250	Tolerance
GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.41 : ← 0.20	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000S. : 12.0  RATED SPEED
GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: 250 : 1.41 : ← 0.20	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000S. : 12.0  RATED SPEED  control lever
GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 250 : 1.41 : ← 0.20 : 1005	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 45.0
GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 250 : 1.41 : ← 0.20 : 1005 : 4.88	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000S. : 12.0  RATED SPEED  control lever
GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 250 : 1.41 : ← 0.20 : 1005	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 45.0 tolerance degree : 4.0
GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.41 : ← 0.20 : 1005 : 4.88 : ← 0.15	Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0  RATED SPEED  control lever position degree: 45.0 tolerance degree: + 4.0  control lever
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm Rated speed rpm	: 250 : 1.41 : ← 0.20 : 1005 : 4.88	Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0  RATED SPEED  control lever position degree: 45.0 tolerance degree: + 4.0  control lever position degree: 99.0
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	: 250 : 1.41 : + 0.20 : 1005 : 4.88 : + 0.15 : 930	Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0  RATED SPEED  control lever position degree: 45.0 tolerance degree: + 4.0  control lever
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm	: 250 : 1.41 : + 0.20 : 1005 : 4.88 : + 0.15 : 930 : 4.50	Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0  RATED SPEED  control lever position degree: 45.0 tolerance degree: + 4.0  control lever position degree: 99.0 tolerance degree: + 4.0
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	: 250 : 1.41 : + 0.20 : 1005 : 4.88 : + 0.15 : 930	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 45.0 tolerance degree : + 4.0  control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 12.30
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Tolerance mm Tolerance mm	: 250 : 1.41 : ← 0.20 : 1005 : 4.88 : ← 0.15 : 930 : 4.50 : ← 0.10	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 45.0 tolerance degree : + 4.0  control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 12.30 Rated speed rpm : 995
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.41 : + 0.20 : 1005 : 4.88 : + 0.15 : 930 : 4.50	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 45.0 tolerance degree : + 4.0  control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 12.30
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.41 : ← 0.20 : 1005 : 4.88 : ← 0.15 : 930 : 4.50 : ← 0.10 : 350	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 45.0 tolerance degree : + 4.0  control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 12.30 Rated speed rpm : 995 Tolerance 1/min : + 5
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.41 : ← 0.20 : 1005 : 4.88 : ← 0.15 : 930 : 4.50 : ← 0.10 : 350 : 2.88	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 45.0 tolerance degree : + 4.0  control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 12.30 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.41 : ← 0.20 : 1005 : 4.88 : ← 0.15 : 930 : 4.50 : ← 0.10 : 350	Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0  RATED SPEED  control lever position degree: 45.0 tolerance degree: + 4.0  control lever position degree: 99.0 tolerance degree: + 4.0  rack travel mm: 12.30 Rated speed rpm: 995 Tolerance 1/min: + 5  rack travel mm: 4.00 Rated speed rpm: 1125
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.41 : + 0.20 : 1005 : 4.88 : + 0.15 : 930 : 4.50 : + 0.10 : 350 : 2.88 : + 0.10	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 45.0 tolerance degree : + 4.0  control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 12.30 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.41 : ← 0.20 : 1005 : 4.88 : ← 0.15 : 930 : 4.50 : ← 0.10 : 350 : 2.88	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 45.0 tolerance degree : + 4.0  control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 12.30 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1125 Tolerance 1/min : + 15
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.41 : + 0.20 : 1005 : 4.88 : + 0.15 : 930 : 4.50 : + 0.10 : 350 : + 2.88 : + 0.10 : 520	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED   control lever position degree : 45.0 tolerance degree : + 4.0  control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 12.30 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1125 Tolerance 1/min : + 15  rack travel mm : 15
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.41 : + 0.20 : 1005 : 4.88 : + 0.15 : 930 : 4.50 : + 0.10 : 350 : 2.88 : + 0.10 : 520 : 4.50	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED   control lever position degree : 45.0 tolerance degree : + 4.0  control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 12.30 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1125 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : 0.50
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.41 : + 0.20 : 1005 : 4.88 : + 0.15 : 930 : 4.50 : + 0.10 : 350 : + 2.88 : + 0.10 : 520	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED   control lever position degree : 45.0 tolerance degree : + 4.0  control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 12.30 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1125 Tolerance 1/min : + 15  rack travel mm : 0.50
GUIDE SLEEVE TRAN  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.41 : + 0.20 : 1005 : 4.88 : + 0.15 : 930 : 4.50 : + 0.10 : 350 : 2.88 : + 0.10 : 520 : 4.50	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED   control lever position degree : 45.0 tolerance degree : + 4.0  control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 12.30 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1125 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : 0.50

LOW IDLE	
control lever position degree tolerance degree	: 64.0 : + 4.0
control lever position degree tolerance degree	: 10.0 : + 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 250 : 4.50 : + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 335 : ← 20
Rated speed rpm	: 150
CRT mm min.	: > 5.80
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 700 : 13.35 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 950 : 13.35 : + 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 13.35 : +- 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 11.20 : +- 0.20
Rated speed rpm	: 500
Pressure hPa	: 210

rack travel mm Tolerance mm	: 11.90 : + 0.15
Pressure hPa rack travel mm Tolerance mm	: 400 : 13.05 : + 0.05
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure	• -
Rated speed rpm Del. quantity	950
cm3/1000 strokes Tolerance	: 169.0
cm3/1000 strokes Check tolerance	: <del>-</del> 4.0
cm3/1000s.	: +- 6.0
Aneroid pressure hPa	• _
Rated speed rpm Del. quantity	500
cm3/1000 strokes Tolerance	: 122.0
cm3/1000 strokes Check tolerance	: + 1.0
cm3/1000s.	: <del>+-</del> 4.0
BREAKAWAY	
BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min	: 12.30 : 995 : ← 5
Rack travel in mm Rated speed rpm	: 995 : ← 5
Rack travel in mon Rated speed rpm Tolerance 1/min STARTING FUEL DEL Rated speed rpm	: 995 : ← 5 
Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm	: 995 : ← 5
Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes	: 995 : ← 5 IVERY : 100 : 20.50
Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 995 : ← 5 IVERY : 100 : 20.50 : ← 0.50
Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: 995 : ← 5 IVERY  : 100 : 20.50 : ← 0.50 : 275.0
Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 995 : ← 5 IVERY  : 100 : 20.50 : ← 0.50 : 275.0 : ← 20.0
Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 995 : ← 5 IVERY  : 100 : 20.50 : ← 0.50 : 275.0 : ← 20.0

Tolerance mm Del. quantity	: +-	0.30
cm3/1000 strokes	:	16.0
Tolerance cm3/1000 strokes	: +-	3.0
Check tolerance cm3/1000s.	: +-	6.0
Spreed Tolerance		
cm3/1000 strokes	:	4.0
Check tolerance cm3/1000s.	:	8.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 20.06.95 : ISO 4113

Combination No. : 0 402 646 634

Injection pump

Pump designation : PE6P120A720RS7188

: -10

EP type number

: 0 412 626 924

Governor

Governer design. : RQ200...950PA745-5

Governer no.

: 0 421 801 695

Cust. part No. : 1356404

Customer-spec. information

Customer

: SCANIA

Motor : DSC 11 73

#### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration

damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve : 1 417 413 025

Inlet press. bar :

2.5

Tolerance bar

: + 0.1

Test nozzle holde

assembly

: 1 688 901 104

Opening pressure

bar

251.5

Tolerance bar

: +- 1.5

x length mm :

2.0

x inside diameter :

600

Test lines : 1 680 750 008

Outside diameter : 6.0

#### REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : +- 1.0

Prestroke mm 4.45 Tolerance mm : **←** 0.05

test only : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.30

Check

tolerance \*NW : ← 0.50

#### BASIC SETTING

Rated speed rpm 700

Rack travel in mm : 11.25 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 182.0

Tolerance

cm3/1000 strokes : +- 1.0

•	
	guide sleeve
Check tolerance - 4.0 - 4.0	- travel mm : 5.50 - Tolerance mm : +- 0.10
CIID/ 10003 +- 4.0	L Toterance man . To U. 10
Spreed	Rated speed rpm : 1360
Tolerance	- guide sleeve
cm3/1000 strokes : 8.0	travel mm : 11.50
	- Tolerance mm : + 0.50
Check tolerance	
cm3/1000s. : 12.0	
250	GUIDE SLEEVE POSITION
Rated speed rpm : 250	- Rated speed rpm : 500
Rack travel in mm: 4.70	- Rated speed rpm : 500
<b>V</b>	Rack travel in mm : 20.00
Tolerance mm : +- 0.30 Del. quantity	Tolerance mm : + 0.80
cm3/1000 strokes : 16.0	roterance mm : + 0.00
Tolerance	<u></u>
cm3/1000 strokes : +- 3.0	- FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	- FULL LUAD DELIVERY AT FULL LUAD STOP
cm3/1000s. : +- 6.0	- - Rated speed rpm : 700
	- Rated speed rpm : 700 - Aneroid pressure
Spreed + Tolerance +	- hPa : -
cm3/1000 strokes : 4.0	- Nra : - - Del. quantity
Check tolerance	- cm3/1000 strokes : 182.0
	- Tolerance
cm3/1000s. : 8.9	- cm3/1000 strokes : +- 1.0
Ī	- Check tolerance
(B) SETTING OF INJECTION PUMP	- cm3/1000s. : $\leftarrow$ 4.0
WITH GOVERNOR	- Spreed
MILL GOACUAOK	· ·
MILL GOACIGOK	- Tolerance
	- Tolerance - cm3/1000 strokes : 8.0
GUIDE SLEEVE TRAVEL	- Tolerance - cm3/1000 strokes : 8.0 - Check tolerance
GUIDE SLEEVE TRAVEL	- Tolerance - cm3/1000 strokes : 8.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250	- Tolerance - cm3/1000 strokes : 8.0 - Check tolerance
GUIDE SLEEVE TRAVEL	- Tolerance - cm3/1000 strokes : 8.0 - Check tolerance
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250 guide sleeve	Tolerance - cm3/1000 strokes : 8.0 - Check tolerance - cm3/1000s. : 12.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250 guide sleeve travel mm : 1.41 Tolerance mm : + 0.20	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000S. : 12.0  RATED SPEED
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250 guide sleeve travel mm : 1.41 Tolerance mm : + 0.20  Rated speed rpm : 1006	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250 guide sleeve travel mm : 1.41 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 43.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250 guide sleeve travel mm : 1.41 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve travel mm : 4.90	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250 guide sleeve travel mm : 1.41 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 43.0 tolerance degree : 4.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250 guide sleeve travel mm : 1.41 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve travel mm : 4.90 Tolerance mm : + 0.15	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 43.0 tolerance degree : + 4.0  control lever
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250 guide sleeve travel mm : 1.41 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve travel mm : 4.90 Tolerance mm : + 0.15  Rated speed rpm : 930	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 43.0 tolerance degree : + 4.0  control lever position degree : 97.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250 guide sleeve travel mm : 1.41 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve travel mm : 4.90 Tolerance mm : + 0.15  Rated speed rpm : 930 guide sleeve	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 43.0 tolerance degree : + 4.0  control lever
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250 guide sleeve travel mm : 1.41 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve travel mm : 4.90 Tolerance mm : + 0.15  Rated speed rpm : 930 guide sleeve travel mm : 4.50	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 43.0 tolerance degree : + 4.0  control lever position degree : 97.0 tolerance degree : + 4.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250 guide sleeve travel mm : 1.41 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve travel mm : 4.90 Tolerance mm : + 0.15  Rated speed rpm : 930 guide sleeve	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 43.0 tolerance degree : + 4.0  control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 10.20
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250 guide sleeve travel mm : 1.41 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve travel mm : 4.90 Tolerance mm : + 0.15  Rated speed rpm : 930 guide sleeve travel mm : 4.50 Tolerance mm : + 0.10	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 43.0 tolerance degree : + 4.0  control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 10.20 Rated speed rpm : 995
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250 guide sleeve travel mm : 1.41 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve travel mm : 4.90 Tolerance mm : + 0.15  Rated speed rpm : 930 guide sleeve travel mm : 4.50 Tolerance mm : + 0.10  Rated speed rpm : 355	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 43.0 tolerance degree : + 4.0  control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 10.20
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250 guide sleeve travel mm : 1.41 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve travel mm : 4.90 Tolerance mm : + 0.15  Rated speed rpm : 930 guide sleeve travel mm : 4.50 Tolerance mm : + 0.10  Rated speed rpm : 355 guide sleeve	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 43.0 tolerance degree : + 4.0  control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 10.20 Rated speed rpm : 995 Tolerance 1/min : + 5
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250 guide sleeve travel mm : 1.41 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve travel mm : 4.90 Tolerance mm : + 0.15  Rated speed rpm : 930 guide sleeve travel mm : 4.50 Tolerance mm : + 0.10  Rated speed rpm : 355 guide sleeve travel mm : 2.97	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 43.0 tolerance degree : + 4.0  control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 10.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250 guide sleeve travel mm : 1.41 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve travel mm : 4.90 Tolerance mm : + 0.15  Rated speed rpm : 930 guide sleeve travel mm : 4.50 Tolerance mm : + 0.10  Rated speed rpm : 355 guide sleeve	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 43.0 tolerance degree : + 4.0  control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 10.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1125
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250 guide sleeve travel mm : 1.41 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve travel mm : 4.90 Tolerance mm : + 0.15  Rated speed rpm : 930 guide sleeve travel mm : 4.50 Tolerance mm : + 0.10  Rated speed rpm : 355 guide sleeve travel mm : 2.97 Tolerance mm : + 0.10	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 43.0 tolerance degree : + 4.0  control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 10.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250 guide sleeve travel mm : 1.41 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve travel mm : 4.90 Tolerance mm : + 0.15  Rated speed rpm : 930 guide sleeve travel mm : 4.50 Tolerance mm : + 0.10  Rated speed rpm : 355 guide sleeve travel mm : 2.97 Tolerance mm : + 0.10  Rated speed rpm : 520	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 43.0 tolerance degree : + 4.0  control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 10.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1125 Tolerance 1/min : + 15
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250 guide sleeve travel mm : 1.41 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve travel mm : 4.90 Tolerance mm : + 0.15  Rated speed rpm : 930 guide sleeve travel mm : 4.50 Tolerance mm : + 0.10  Rated speed rpm : 355 guide sleeve travel mm : 2.97 Tolerance mm : + 0.10  Rated speed rpm : 520 guide sleeve	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 43.0 tolerance degree : + 4.0  control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 10.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1125 Tolerance 1/min : + 15  rack travel mm : 10.50
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250 guide sleeve travel mm : 1.41 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve travel mm : 4.90 Tolerance mm : + 0.15  Rated speed rpm : 930 guide sleeve travel mm : 4.50 Tolerance mm : + 0.10  Rated speed rpm : 355 guide sleeve travel mm : 2.97 Tolerance mm : + 0.10  Rated speed rpm : 520 guide sleeve travel mm : 520 guide sleeve travel mm : 520 guide sleeve travel mm : 520	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 43.0 tolerance degree : + 4.0  control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 10.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1125 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250 guide sleeve travel mm : 1.41 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve travel mm : 4.90 Tolerance mm : + 0.15  Rated speed rpm : 930 guide sleeve travel mm : 4.50 Tolerance mm : + 0.10  Rated speed rpm : 355 guide sleeve travel mm : 2.97 Tolerance mm : + 0.10  Rated speed rpm : 520 guide sleeve	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 43.0 tolerance degree : + 4.0  control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 10.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1125 Tolerance 1/min : + 15  rack travel mm : 10.50
GUIDE SLEEVE TRAVEL  Rated speed rpm : 250 guide sleeve travel mm : 1.41 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve travel mm : 4.90 Tolerance mm : + 0.15  Rated speed rpm : 930 guide sleeve travel mm : 4.50 Tolerance mm : + 0.10  Rated speed rpm : 355 guide sleeve travel mm : 2.97 Tolerance mm : + 0.10  Rated speed rpm : 520 guide sleeve travel mm : 520 guide sleeve travel mm : 520 guide sleeve travel mm : 520	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 43.0 tolerance degree : + 4.0  control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 10.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1125 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50

LOW IDLE	
control lever position degree tolerance degree	: 65.0 : +- 4.0
control lever position degree tolerance degree	
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 250 : 4.70 : + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 340 : ← 30
Rated speed rpm	: 150
CRT mm min.	: > 6.00
Rated speed rpm rack travel mm Tolerance mm  ANEROID/ALTITUDE COMPENSATOR TEST	: 950 : 11.25 : ← 0.05
MEASUREMENT	
rack travel mm	: 210 : 10.60 : + 0.15
rack travel mm Tolerance mm Pressure hPa rack travel mm	: 10.60
rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 10.60 : + 0.15 : 270 : 11.05 : + 0.05
Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm FUEL DELIVERY CHA Aneroid pressure nPa Rated speed rpm Del. quantity	: 10.60 : + 0.15 : 270 : 11.05 : + 0.05

Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +- 4.0 : +- 6.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 153.0 : + 1.0 : + 4.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 10.20 : 995 : +- 5
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
LOW IDLE	<u></u>
Rated speed rpm rack travel mm Tolerance mm	: 250 : 4.70 : +- 0.30

Rated speed rpm	:		250
rack travel mm	:		4.70
Tolerance mm	:	+-	0.30
Del. quantity			
cm3/1000 strokes	:		16.0
Tolerance			
cm3/1000 strokes	:	+-	3.0
Check tolerance			
cm3/1000S.	:	+-	6.0
Spreed			
Tolerance			
cm3/1000 strokes	:		4.0
Check tolerance			
cm3/1000s.	:		8.0

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 20.06.95 Test oil : ISO 4113

Combination No. : 0 402 646 637

Injection pump

Pump designation : PE6P120A720RS7188

: -10Y

EP type number : 0 412 626 927

Governor

Governer design. : RQ200...950PA745-4

Governer no. : 0 421 801 694

Cust. part No. : 1355247

Customer—spec. information Customer : SCANIA Motor : DSC 11 38

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C : 40Tolerance °C :  $\leftarrow$  2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : + 1.5 Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

Start-of-delivery setting with ROBO

diaphragm.

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : +- 0.05

test only : + 0.10

Rack travel in mm: 10.50 Tolerance mm: + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.30

Check

tolerance "NW : + 0.50

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.25 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 236.0

Tolerance

cm3/1000 strokes : +- 1.0

	1	quido otorvo
Alexander Augustus augustus a	T	guide steeve
Check tolerance cm3/1000s. :	+ 4.0	travel mm : 5.50 Tolerance mm : +- 0.10
Spreed	<del></del> ‡	Rated speed rpm : 1360
Tolerance cm3/1000 strokes :	8.0	guide sleeve travel mm : 11.50
Check tolerance	12.0	Tolerance mm : +- 0.50
	+	GUIDE SLEEVE POSITION
Rated speed rpm :	+	Rated speed rpm : 500
Rack travel in mm :		
Tolerance mm :	<b>←</b> 0.30 <b>+</b>	Rack travel in mm : 20.00
Del. quantity	1	Tolerance mm : + 0.80
cm3/1000 strokes :	16.0	
Tolerance	+	
cm3/1000 strokes :	+ 3.0 +	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	+	
	+ 6.0	Rated speed rpm : 700
Spreed	†	Aneroid pressure
Tolerance	, <u>, , , , , , , , , , , , , , , , , , </u>	hPa : -
cm3/1000 strokes :	4.0	Del. quantity
Check tolerance	†	cm3/1000 strokes : 236.0
cm3/1000s. :	8.0	Tolerance cm3/1000 strokes : +- 1.0
	Ť	cm3/1000 strokes : +- 1.0 Check tolerance
(B) SETTING OF INJECTION OF INJ	CTION PUMP	cm3/1000s. : + 4.0 Spreed
	<del>1</del>	Tolerance
	<del></del>	cm3/1000 strokes : 8.0
GUIDE SLEEVE TRAVEL	+	Check tolerance cm3/1000s. : 12.0
Rated speed rpm :	250	
	+	
guide sleeve travel mm	1.41	RATED SPEED
guide sleeve	1.41 + 0.20	RATED SPEED
guide sleeve travel mm : Tolerance mm :	+ 0.20	
guide sleeve travel mm : Tolerance mm :	+ 0.20	control lever
guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve	1005	control lever position degree : 49.0
guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm :	+ 0.20 1005 4.88	control lever
guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve	1005	control lever position degree : 49.0 tolerance degree : +- 4.0
guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm :	+ 0.20 1005 4.88 + 0.15	control lever position degree : 49.0 tolerance degree : + 4.0 control lever
guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm :	+ 0.20 1005 4.88	control lever position degree : 49.0 tolerance degree : + 4.0  control lever position degree : 103.0
guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve	+ 0.20 1005 4.88 + 0.15 930	control lever position degree : 49.0 tolerance degree : + 4.0 control lever
guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm :	+ 0.20 1005 4.88 + 0.15 930 4.50	control lever position degree : 49.0 tolerance degree : + 4.0  control lever position degree : 103.0 tolerance degree : + 4.0
guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve	+ 0.20 1005 4.88 + 0.15 930	control lever position degree : 49.0 tolerance degree : + 4.0  control lever position degree : 103.0 tolerance degree : + 4.0  rack travel mm : 12.20
guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Tolerance mm :	+ 0.20 1005 4.88 + 0.15 930 + 0.10	control lever position degree : 49.0 tolerance degree : + 4.0  control lever position degree : 103.0 tolerance degree : + 4.0  rack travel mm : 12.20 Rated speed rpm : 995
guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : Rated speed rpm : Rated speed rpm :	+ 0.20 1005 4.88 + 0.15 930 4.50	control lever position degree : 49.0 tolerance degree : + 4.0  control lever position degree : 103.0 tolerance degree : + 4.0  rack travel mm : 12.20
guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm :	+ 0.20 1005 4.88 + 0.15 930 + 0.10 - 355	control lever position degree : 49.0 tolerance degree : + 4.0  control lever position degree : 103.0 tolerance degree : + 4.0  rack travel mm : 12.20 Rated speed rpm : 995 Tolerance 1/min : + 5
guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm :	+ 0.20 1005 4.88 + 0.15 930 + 0.10 355 2.97	control lever position degree : 49.0 tolerance degree : + 4.0  control lever position degree : 103.0 tolerance degree : + 4.0  rack travel mm : 12.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00
guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm :	+ 0.20 1005 4.88 + 0.15 930 + 0.10 - 355	control lever position degree : 49.0 tolerance degree : + 4.0  control lever position degree : 103.0 tolerance degree : + 4.0  rack travel mm : 12.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 120
guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Tolerance mm :	+ 0.20 1005 + 4.88 + 0.15 930 + 4.50 + 0.10 355 - 2.97 + 0.10	control lever position degree : 49.0 tolerance degree : + 4.0  control lever position degree : 103.0 tolerance degree : + 4.0  rack travel mm : 12.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00
guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : Rated speed rpm :	+ 0.20 1005 4.88 + 0.15 930 + 0.10 355 2.97	control lever position degree : 49.0 tolerance degree : + 4.0  control lever position degree : 103.0 tolerance degree : + 4.0  rack travel mm : 12.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1120 Tolerance 1/min : + 15
guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve	+ 0.20 1005 4.88 + 0.15 930 + 0.10 355 - 2.97 + 0.10 520	control lever position degree : 49.0 tolerance degree : + 4.0  control lever position degree : 103.0 tolerance degree : + 4.0  rack travel mm : 12.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1120 Tolerance 1/min : + 15  rack travel mm : 0.50
guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm :	+ 0.20 1005 4.88 + 0.15 930 + 0.10 355 - 2.97 + 0.10 520 4.50	control lever position degree : 49.0 tolerance degree : + 4.0  control lever position degree : 103.0 tolerance degree : + 4.0  rack travel mm : 12.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1120 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50
guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve	+ 0.20 1005 4.88 + 0.15 930 + 0.10 355 - 2.97 + 0.10 520	control lever position degree : 49.0 tolerance degree : + 4.0  control lever position degree : 103.0 tolerance degree : + 4.0  rack travel mm : 12.20 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1120 Tolerance 1/min : + 15  rack travel mm : 0.50

LOW IDLE	
control lever position degree tolerance degree	: 65.0 : +- 4.0
control lever position degree tolerance degree	: 11.0 : + 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 250 : 4.70 : + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	
Rated speed rpm	: 150
CRT mm min.	: > 6.00
rack travel mm Tolerance mm  ANEROID/ALTITUDE	: 13.25 : + 0.05
COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 13.25 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 10.40 : + 0.20
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 270 : 11.00 : + 0.20

rack travel mm Tolerance mm	: 12.05 : +- 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 222.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 500 : 153.0 : + 1.0 : + 4.0
BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min	: 12.20 : 995 : + 5
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	IVERY : 100 : 10.40 : + 0.20 : 165.0 : + 20.0 : + 24.0
LOW IDLE  Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes	: 250 : 4.70 : + 0.30 : 16.0

Pressure hPa

: 440

Tolerance
cm3/1000 strokes : +- 3.0
Check tolerance
cm3/1000s. : +- 6.0
Spreed
Tolerance
cm3/1000 strokes : 4.0
Check tolerance
cm3/1000s. : 8.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 11.05.95 Edition : ISO 4113 Test oil

Combination No. : 0 402 646 651A

Injection pump

Pump designation : PE6P12OA32OLS7357 EP type number : 0 412 626 934

Governor

Governer design. : RQV325...975PA1190K

: 0 421 815 450 Governer no.

Cust. part No.

Customer-spec. information Customer : LIAZ

: siehe Bemerkung Motor

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar : + 1.5 Tolerance bar

Test lines : 1 680 750 089

8.0 Outside diameter :

x inside diameter: 3.0 x length mm 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

#### BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 5.20 Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm: 12.00 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -300

4.0

Tolerance : + - 0.30

Check

: + 0.50tolerance "NW

#### BASIC SETTING

Rated speed rpm 725

Rack travel in mm: 13.20 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 235.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance cm3/1000s.

: +-

Spreed

Tolerance

cm3/1000 strokes : 5.0

Charle talanana	+
Check tolerance cm3/1000s. : 9.0	LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 67.0 tolerance degree : + 4.0
GUIDE SLEEVE POSITION	control lever position degree : 14.0 tolerance degree : + 4.0
Rated speed rpm : 1100	Testing:
Rack travel in mm : 12.20 Tolerance mm : +- 1.50	Rated speed rpm : 325 rack travel mm : 4.10 Tolerance mm : + 0.30
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 225
Rated speed rpm : 725 Aneroid pressure hPa : -	CRT mm min. : > 5.30
Del. quantity cm3/1000 strokes : 235.0	Rated speed rpm : 350
Tolerance cm3/1000 strokes : +- 1.0 Check tolerance	TORQUE CONTROL
cm3/1000s. : +- 4.0 Spreed Tolerance	Rated speed rpm : 725 + rack travel mm : 13.20 + Tolerance mm : + 0.05
cm3/1000 strokes : 5.0 Check tolerance	+ Rated speed rpm : 1000
cm3/1000s. : 9.0	rack travel mm : 13.20 Tolerance mm : + 0.20
RATED SPEED control lever	Rated speed rpm : 600 rack travel mm : 12.20 Tolerance mm : ÷ 0.20
position degree : 70.0 tolerance degree : +- 4.0 control lever	ANEROID/ALTITUDE COMPENSATOR TEST
position degree : 122.0 tolerance degree : +- 4.0	SETTING
rack travel mm : 12.20 Rated speed rpm : 1075 Tolerance 1/min : +- 5	Rated speed rpm : 1000 Pressure hPa : 1500 rack travel mm : 13.20 Tolerance mm : + 0.05
rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15	# MEASUREMENT
rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1250	+ Pressure hPa : - Rated speed rpm : 1000 - rack travel mm : 9.40 - Tolerance mm : + 0.10
	+ Rated speed rpm : 1000

190 Pressure hPa 10.90 rack travel mm : +- 0.20 Tolerance mm 330 Pressure hPa 12.40 rack travel mm Tolerance mm : ← 0.05 START CUT-OUT Rated speed rpm 245 : < Check 265 speed 1/min : < FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa Rated speed rpm 1000 Del. quantity cm3/1000 strokes : 210.0 Tolerance cm3/1000 strokes 3.0 Check tolerance cm3/1000s. 6.0 Aneroid pressure hPa Rated speed rpm *500* Del. quantity cm3/1000 strokes : 141.0 Tolerance cm3/1000 strokes 2.0 Check tolerance cm3/1000s. 4.0 BREAKAWAY Rack travel in mm: 12.20 Rated speed rpm : Tolerance 1/min STARTING FUEL DELIVERY 100 Rated speed rpm Del. quantity 300.0 cm3/1000 strokes : Tolerance cm3/1000 strokes : +- 20.0Check tolerance cm3/1000s. : +- 24.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 21.08.95 : ISO 4113

Combination No. : 0 402 646 745

Injection pump

Pump designation : PE6P120A320LS7872 EP type number : 0 412 626 912

Governor

Governer design. : RQV300...1050PA1241K

Governer no.

: 0 421 815 476

Cust. part No. : 80165-6-13

Customer-spec. information

Customer

: KHD

Motor

: BF6M1015C

Power KW

: 300.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve : 1 417 413 025

Inlet press. bar :

1.5

Tolerance bar

0.1

Overflow quantity

min. L/h : 105

Tolerance L/h

: + 10.0

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar

Outside diameter :

Test Lines : 1 680 750 075

8.0

x inside diameter :

3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

Prestroke mm 4.05 : + 0.05Tolerance mm

: + 0.10test only

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-6-3-5-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : + 0.30

Check

tolerance "NW : **←** 0.50

Start of delivery mark

Barrel no.

BASIC SETTING

Rated speed rpm : 1050

1

Rack travel in mm: 14.40

Tolerance mm

: **←** 0.05

Del. quantity

cm3/1000 strokes :

350.0

Tolerance : + 1.0	
Check tolerance	GUIDE SLEEVE POSITION
cm3/1000s. : + 4.0	Rated speed rpm : 1205
Spreed Tolerance cm3/1000 strokes : 8.0	Rack travel in mm : 13.40 Tolerance mm : +- 1.30
Check tolerance cm3/1000s. : 12.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 300	Rated speed rpm : 1050 Aneroid pressure hPa : 1700
Rack travel in mm: 4.90 - Tolerance mm: + 0.20 -	Del. quantity cm3/1000 strokes : 350.0
Del. quantity -	Tolerance - cm3/1000 strokes : + 1.0
Tolerance -	Check tolerance
cm3/1000 strokes : + 3.0 - Check tolerance -	- cm3/1000s. : +- 4.0 - Spreed
cm3/1000S. : + 6.0 - Spreed	Tolerance : 8.0
Tolerance - cm3/1000 strokes : 8.0 -	Check tolerance : 12.0
Check tolerance - cm3/1000s. : 12.0 -	
-	RATED SPEED
·	F
(B) SETTING OF INJECTION PUMP -	l control lavor
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 121.0
	position degree : 121.0 tolerance degree : +- 4.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300	position degree : 121.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 2.74	position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 13.40 Rated speed rpm : 1085 Tolerance 1/min : + 5
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 2.74 Tolerance mm : + 0.20	position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 13.40 Rated speed rpm : 1085 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1220
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 2.74 Tolerance mm : + 0.20  Rated speed rpm : 1107 guide sleeve	position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 13.40 Rated speed rpm : 1085 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1220 Tolerance 1/min : + 15
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 2.74 Tolerance mm : + 0.20  Rated speed rpm : 1107	position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 13.40 Rated speed rpm : 1085 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1220 Tolerance 1/min : + 15  rack travel mm : 0.50
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 2.74 Tolerance mm : + 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 9.89	position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 13.40 Rated speed rpm : 1085 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1220 Tolerance 1/min : + 15  rack travel mm : 0.50
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 2.74 Tolerance mm : + 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 9.89 Tolerance mm : + 0.15  Rated speed rpm : 772 guide sleeve	position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 13.40 Rated speed rpm : 1085 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1220 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 2.74 Tolerance mm : + 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 9.89 Tolerance mm : + 0.15  Rated speed rpm : 772	position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 13.40 Rated speed rpm : 1085 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1220 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 2.74 Tolerance mm : + 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 9.89 Tolerance mm : + 0.15  Rated speed rpm : 772 guide sleeve travel mm : 6.82 Tolerance mm : + 0.25  Rated speed rpm : 440	position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 13.40 Rated speed rpm : 1085 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1220 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300  LOW IDLE  control lever
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 2.74 Tolerance mm : + 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 9.89 Tolerance mm : + 0.15  Rated speed rpm : 772 guide sleeve travel mm : 6.82 Tolerance mm : + 0.25	position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 13.40 Rated speed rpm : 1085 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1220 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300  LOW IDLE  control lever
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 2.74 Tolerance mm : + 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 9.89 Tolerance mm : + 0.15  Rated speed rpm : 772 guide sleeve travel mm : 6.82 Tolerance mm : + 0.25  Rated speed rpm : 440 guide sleeve travel mm : 3.88 Tolerance mm : + 0.25	position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 13.40 Rated speed rpm : 1085 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1220 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300  LOW IDLE  control lever position degree : 76.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 2.74 Tolerance mm : + 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 9.89 Tolerance mm : + 0.15  Rated speed rpm : 772 guide sleeve travel mm : 6.82 Tolerance mm : + 0.25  Rated speed rpm : 440 guide sleeve travel mm : 440 guide sleeve travel mm : 3.88	position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 13.40 Rated speed rpm : 1085 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1220 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300  LOW IDLE  control lever position degree : 76.0 tolerance degree : + 4.0

		I Talanana
Rated speed rpm	: 200	Tolerance cm3/1000 strokes : +- 3.0
CRT mm min.	: > 7.10	+ Check tolerance + cm3/1000S. : +- 6.0
Rated speed rpm	: 355	Aneroid pressure
		+ hPa : -
TORQUE CONTROL		Rated speed rpm : 400 Del. quantity
Rated speed rpm	: 1050	+ cm3/1000 strokes : 230.0 + Tolerance
rack travel mm Tolerance mm	: 14.40	+ cm3/1000 strokes : +- 1.0
Tolerance mm	: + 0.05	+ Check tolerance + cm3/1000s. : + 4.0
Rated speed rpm	: 600	Spreed
rack travel mm	: 12.30	+ Tolerance
Tolerance mm	: + 0.10	+ cm3/1000 strokes : 10.0
		🕂 Check tolerance
Rated speed rpm	: 850	+ cm3/1000s. : 14.0
Rated speed rpm rack travel mm Tolerance mm	: 13.80	†
Tolerance mm	: + 0.20	BREAKAWAY
		T DREAKAWAT
ANEROID/ALTITUDE		4
COMPENSATOR TEST		Rack travel in mm: 13.40
		Rated speed rpm : 1085
		+ Tolerance 1/min : + 5
SETTING		†
Rated speed rpm	• 1050	
Pressure hPa		STARTING FUEL DELIVERY
rack travel mm		T STANTING FOLL DELIVER!
rack travel mm Tolerance mm	: + 0.05	Rated speed rpm : 100
ioterance im	0.02	
MEASUREMENT		+ rack travel mm : 8.70 + Tolerance mm : + 0.30
· ITUDAVELITIA)		Del. quantity
Pressure hPa	•	- cm3/1000 strokes : 130.0
Rated speed rpm		+ Tolerance
rack travel mm		+ cm3/1000 strokes : + 15.0
Tolerance mm		- Check tolerance
		+ cm3/1000s. : +- 19.0
Rated speed rpm	: 1050	<u>†</u>
Pressure hPa	: 420	Į
rack travel mm	9.70	
Tolerance mm	· + 0.20	LOW IDLE
December Los	. 970	Potent around the 200
Pressure hPa	: 830 : 12.40	+ Rated speed rpm : 300 + rack travel mm : 4.90
rack travel mm	: + 0.05	+ Tolerance mm : +- 0.20
Tolerance mm	. ייי נט.ט	+ Del. quantity
		+ cm3/1000 strokes : 23.0
		——— † Tolerance
FUEL DELIVERY CHA	ARACTERISTICS	cm3/1000 strokes : + 3.0 Check tolerance
Aneroid pressure		+ cm3/1000s. : +- 6.0
hPa	: 1700	Spreed
Rated speed rpm		+ Tolerance
Del. quantity	- · · <del>- •</del>	+ cm3/1000 strokes : 8.0
cm3/1000 strokes	: 353.0	+

Check tolerance cm3/1000s.	:	12.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.06.95 Test oil : 180 4113

Combination No. : 0 402 646 887

Injection pump

Pump designation : PE6P120A720RS7188

: -10

EP type number : 0 412 626 924

Governor

Governer design. : RQV200...950PA725-7

Governer no. : 0 421 813 803

Cust. part No. : 1333122

Customer—spec. information Customer : SCANIA Motor : DSC 11 23

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration

damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Overflow quantity

min. l/h : 190 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

Start-of-delivery setting with ROBO

diaphragm.

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45 Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.50

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 13.85

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 252.0	Check tolerance : 12.0
Tolerance cm3:1000 strokes : + 1.0	RATED SPEED
Check tolerance cm3/1000s. : + 4.0	control lever position degree : 60.0
Spreed Tolerance cm3/1000 strokes : 8.0	tolerance degree : +- 4.0 control lever
Check tolerance cm3/1000s. : 12.0	position degree : 114.0 tolerance degree : + 4.0
Rated speed rpm : 250	rack travel mm : 12.80 Rated speed rpm : 995 Tolerance 1/min : +- 5
Rack travel in mm: 4.70 Tolerance mm: + 0.30 Del. quantity	rack travel mm : 4.00 Rated speed rpm : 1125
cm3/1000 strokes : 16.0 + Tolerance cm3/1000 strokes : + 3.0 + Tolerance cm3/1000 str	Tolerance 1/min : +- 15 rack travel mm : 0.50
Check tolerance cm3/1000s. : + 6.0 Spreed	Tolerance mm : + 0.50 Rated speed rpm : 1250
Tolerance + cm3/1000 strokes : 4.0 + Check tolerance +	LOW IDLE
cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 64.0 tolerance degree : +- 4.0
	control lever position degree : 10.0 tolerance degree : +- 4.0
GUIDE SLEEVE POSITION  Rated speed rpm : 1150	Testing:
Rack travel in mm: 9.50 Tolerance mm: + 2.50	Rated speed rpm : 250 rack travel mm : 4.70 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 150
Rated speed rpm : 700 +	CRT mm min. :> 6.00  Rated speed rpm : 300
hPa : - + Del. quantity +	
cm3/1000 strokes : 252.0 + Tolerance cm3/1000 strokes : +- 1.0 +	TORQUE CONTROL  Rated speed rpm : 950
Check tolerance cm3/1000s. : + 4.0	rack travel mm : 13.85 Tolerance mm : + 0.05
Tolerance cm3/1000 strokes : 8.0	

ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 13.85 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 10.40 : +- 0.20
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 270 : 11.00 : + 0.15
Pressure hPa rack travel mm Tolerance mm	: 440 : 12.05 : ← 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa	:
Rated speed rpm Del. quantity	: 950
cm3/1000 strokes Tolerance	
cm3/1000 strokes Check tolerance	
cm3/1000s.	: <b>←</b> 6.0
Aneroid pressure hPa Rated speed rpm	: - : 500
Del. quantity cm3/1000 strokes	: 153.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: ← 4.0
BREAKAWAY	

Tolerance 1/min	: +- 5
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
LOW IDLE	
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
End of test speci	fication sheet

Rack travel in mm : 12.80 Rated speed rpm : 995

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 20.06.95 : ISO 4113

Combination No. : 0 402 646 938

Injection pump

Pump designation : PE6P12OA72ORS7188

: -100

EP type number

: 0 412 626 925

Governor

Governer design. : RQ200/950PA745-3

Governer no.

: 0 421 801 579

Cust. part No. : 1334027

Customer-spec. information Customer : SCANIA : DSC 71 21 Motor

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration

damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

: 251.5 Tolerance bar :  $\leftarrow$  1.5 Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x Length mm : 600

REMARKS

Start-of-delivery setting with ROBO

diaphragm.

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45 : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: -300

Phasing : 0-60-120-180-240

Tolerance : + 0.30

Check

tolerance °NW : +- 0.50

BASIC SETTING

700 Rated speed rpm :

Rack travel in mm: 12.75 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 220.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

	+ guide sleeve
Check tolerance	+ travel mm : 5.50
cm3/1000s. : +- 4.0	† Tolerance mm : +- 0.10
Spanod	Rated speed rpm : 1360
Spreed Tolerance	Rated speed rpm : 1360 guide sleeve
cm3/1000 strokes : 8.0	travel mm : 11.50
one in the services in the ser	+ Tolerance mm : + 0.50
Check tolerance	
cm3/1000s. : 12.0	
5	+ GUIDE SLEEVE POSITION
Rated speed rpm : 250	Rated speed rpm : 600
Rack travel in mm : 4.70	+ Rated speed rpm : 600
Tolerance mm : + 0.30	Rack travel in mm: 16.50
Del. quantity	+ Tolerance mm : + 1.30
cm3/1000 strokes : 16.0	· +
Tolerance	
cm3/1000 strokes : +- 3.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance cm3/1000s. : +- 6.0	Rated speed rpm : 700
Spreed	Aneroid pressure
Tolerance	+ hPa : -
cm3/1000 strokes : 4.0	+ Del. quantity
Check tolerance	+ cm3/1000 strokes : 220.0
cm3/1000s. : 8.0	† Tolerance
	+ cm3/1000 strokes : +- 1.0 + Check tolerance
(B) SETTING OF INJECTION PUMP	+ cm3/1000s. : +- 4.0
WITH GOVERNOR	+ Spreed
WE 177 33 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	+ Tolerance
GUIDE SLEEVE TRAVEL	+ Check tolerance
Rated speed rpm : 250	+ cm3/1000s. : 12.0
Rated speed rpm : 250 guide sleeve	
travel mm : 1.41	A RATED SPEED
Tolerance mm : +- 0.20	1
	+
Rated speed rpm : 1005	control lever
guide sleeve travel mm : 4.88	<pre>position degree : 44.0 tolerance degree : + 4.0</pre>
Tolerance mm : + 0.15	T toterance degree . 4.5
, 500 and and 500 and	control lever
Rated speed rpm : 930	position degree : 99.0
guide sleeve	+ tolerance degree : + 4.0
travel mm : 4.50	†
Tolerance mm : + 0.10	+ rack travel mm : 11.70 + Rated speed rpm : 995
Rated speed rpm : 355	+ Rated speed rpm : 995 + Tolerance 1/min : +- 5
guide sleeve	Toterance mini
travel mm : 2.97	rack travel mm : 4.00
Tolerance mm : + 0.10	Rated speed rpm : 1125
	† Tolerance 1/min : +- 15
Rated speed rpm : 520	† made #===== 0.50
guide sleeve travel mm : 4.50	+ rack travel mm : 0.50 + Tolerance mm : +- 0.50
travel mm : 4.50 Tolerance mm : + 0.10	Rated speed rpm : 1250
roter and the second	Added opeca (piii - 1250
Rated speed rpm : 1045	+
J11	

LOW IDLE	
control lever position degree tolerance degree	: 62.0 : + 4.0
control lever position degree tolerance degree	: 11.0 : + 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 250 : 4.70 : ← 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 350 : + 20
Rated speed rpm	: 150
CRT mm min.	: > 6.00
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 950 : 12.75 : + 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 12.75 : ← 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 10.40 : +- 0.20
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 270 : 11.00 : + 0.15

: 440

rack travel mm Tolerance mm	: 12.05 : +- 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 209.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
Rack travel in mm Rated speed rpm Tolerance 1/min	
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
LOW IDLE	
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes	: 250 : 4.70 : ← 0.30 : 16.0

Pressure hPa

Tolerance cm3/1000 strokes	: +-	3.0
Check tolerance		
cm3/1000s.	: +-	6.0
Spreed		
Tolerance cm3/1000 strokes	_	4.0
Check tolerance	÷	4.0
cm3/1000s.	:	8.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 08.08.95 Edition : ISO 4113 Test oil

Combination No. : 0 402 648 795

Injection pump

Pump designation : PE8P12OA32OLS7873 EP type number : 0 412 628 880

Governor

Governer design. : RQV300...1050PA1258K

Governer no. : 0 421 815 490

Cust. part No. : 04223330KY0165-17

Customer-spec. information

: KHD Customer

: BF8M1015/C Motor Power KW

: 400.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 26.0 26.0

Prestroke mm : 4.05 Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-8-7-2-6 : - 5- 4- 3

Phasing : 0-45-90-135-180

: -225-270-315 : + 0.30Tolerance

Check

tolerance \*NW : +- 0.50

Start of delivery mark

Barrel no. : 1

#### BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 14.20 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 360.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance		1.	
cm3/1000s.	: +- 4.0	Rated speed rpm	: 1178
Spreed		- T Rack travel in mm	13 20
Tolerance		+ Tolerance mm	; + 1.30
cm3/1000 strokes	: 6.0	1 Occi di lee iinii	1.50
CIIDY 1000 STI ONES	. 0.0		<del></del>
Check tolerance		FULL LOAD DELIVER	Y AT FULL LO
cm3/1800s.	: 9.0	+	
		+ Rated speed rpm	: 1050
Rated speed rpm	: 300	+ Aneroid pressure	
		+ hPa	: -
Rack travel in mm		† Del. quantity	
Tolerance mm	: +- 0.10	+ cm3/1000 strokes	: 360.0
Del. quantity		† Tolerance	
cm3/1000 strokes	: 23.0	+ cm3/1000 strokes	: <b>←</b> 1.0
Tolerance		+ Check tolerance	
cm3/1000 strokes	<b>: ←</b> 3.0	+ cm3/1000s.	s +− 4.0
Check tolerance		+ Spreed	
cm3/1000s.	: <b>←</b> 6.0	+ Tolerance	
Spreed		+ cm3/1000 strokes	: 6.0
Tolerance		+ Check tolerance	
cm3/1000 strokes	: 8.0	+ cm3/1000s.	: 9.0
Check tolerance		+	
cm3/1000s.	: 12.0	+	
		+ RATED SPEED	
(B) SETTING OF IN	IECTION DUMP	Ţ	
WITH GOVERNOR	DECITOR FOUR	T control lever	
WITH GOVERNOR		position degree	: 119.0
		tolerance degree	
GUIDE SLEEVE TRAVE	EL	+	
	700	† rack travel mm	: 13.20
Rated speed rpm	: 300	+ Rated speed rpm	: 1085
guide sleeve	4 (0	† Tolerance 1/min	: <b>←</b> 5
travel mm	: 1.60	† , , ,	/ 00
Tolerance mm	: +- 0.20	+ rack travel mm	: 4.00
	4007	Rated speed rpm	
Rated speed rpm guide sleeve	: 1097	† Tolerance 1/min	: +- 15
travel mm	: 10.07	T rack travel mm	: 0.50
Tolerance mm	: + 0.15	Tolerance mm	: +- 0.50
rucci ariue iilii		Rated speed rpm	1350
Rated speed rpm	: 796	Added Speed (pill	. ,,,,,,
guide sleeve			
travel mm	: 6.87	LOW IDLE	
Tolerance mm	: +- 0.25	1	
TO COT ALL TO COMP		1	
Rated speed rpm	: 510	+ control lever	
guide sleeve		position degree	: 71.0
travel mm	: 4.02	+ tolerance degree	: <b>←</b> 4.0
Tolerance mm	: + 0.25	+	
		+ Testing:	
Rated speed rpm	: 1340	+	
guide sleeve		+ Rated speed rpm	: 300
travel mm	: 13.50	+ rack travel mm	: 5.00
Tolerance mm	: +- 0.50	+ Tolerance mm	: + 0.10
		+	
		+ Rated speed rpm	: 200
GUIDE SLEEVE POSIT	ION	+	

FULL LOAD STOP

CRT mm max. : > 7.00 FUEL DELIVERY CHARACTERISTICS Rated speed rpm 350 Aneroid pressure hPa TORQUE CONTROL 400 Rated speed rpm Del. quantity cm3/1000 strokes : 1050 250.0 Rated speed rpm rack travel mm 14.20 Tolerance cm3/1000 strokes : +-1.0 Tolerance mm : **←** 0.05 Check tolerance cm3/1000s. 600 Rated speed rpm 4.0 rack travel mm 12.20 : **←** 0.25 Tolerance mm BREAKAWAY 800 Rated speed rpm 13.50 rack travel mm 13.20 Tolerance mm : + 0.25 Rack travel in mm: Rated speed rpm : 1085 450 Tolerance 1/min Rated speed rpm 10.80 rack travel mm Tolerance mm : + 0.25 STARTING FUEL DELIVERY ANEROID/ALTITUDE Rated speed rpm COMPENSATOR TEST 100 rack travel mm : 9.40 Tolerance cm3/1000 strokes : +- 14.0SETTING Check tolerance cm3/1000s. : +- 20.0 Rated speed rpm 1050 Pressure hPa 1000 14.20 rack travel mm : + 0.05Tolerance mm **MEASUREMENT** LOW IDLE Pressure hPa Rated speed rpm 300 Rated speed rpm 1050 rack travel mm 5.00 rack travel mm 9.40 Tolerance mm 0.10 Tolerance mm 0.20 Del. quantity cm3/1000 strokes : 23.0 1050 Rated speed rpm Tolerance cm3/1000 strokes : +-3.0 500 Check tolerance Pressure hPa cm3/1000S. : +-6.0 10.60 rack travel mm Spreed Tolerance mm : +- 0.10 Tolerance 800 cm3/1000 strokes : 8.0 Pressure hPa 13.60 Check tolerance rack travel mm cm3/1000s. 12.0 : + 0.05 Tolerance mm START CUT-OUT 220 Rated speed rpm : < Check End of test specification sheet : < 240 speed 1/min

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 16.03.95 Edition : ISO 4113 Test oil

Combination No. : 0 402 648 9298

Injection pump

Pump designation: PE8P120A320LS7847-3

EP type number : 0 412 628 886

Governor

Governer design. : RQV300...950PA1033

: -12

: 0 421 814 093 Governer no.

: 0230741402 Cust. part No.

Customer-spec. information : MB-NFZ Customer : 0M402 LA Motor Power KW : 280.0

#### TEST BENCH REQUIREMENTS

: 3.1 Inlet line

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : +-

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar 1.0

Prestroke mm 5.55 : +- 0.05 Tolerance mm

test only : + 0.10

Rack travel in mm: 20.50 Tolerance mm : +- 0.50

: 8-7-2-6-3 Firing order : - 5- 4- 1

: 0-45-90-135-180 Phasing

: -225-270-315

Tolerance : +- 0.30

Check

tolerance "NW : +- 0.50

Start of delivery mark

Barrel no. 8

#### BASIC SETTING

Rated speed rpm 550

Rack travel in mm: 14.80

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes :

239.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance +	guide sleeve
cm3/1000s. : + 4.0	travel mm : 6.48
+	Tolerance mm : +- 0.25
Spreed +	Rated speed rpm : 1100
cm3/1000 strokes : 6.0	guide sleeve
	travel mm : 10.00
Check tolerance	Tolerance mm : +- 0.25
cm3/1000s. : 9.0	Detect another a 1210
Rated speed rpm : 300	Rated speed rpm : 1210 guide sleeve
hatea speed (pii)	travel mm : 11.50
Rack travel in mm: 5.70	Tolerance mm : +- 0.50
Tolerance mm : + 0.30	
Del. quantity + cm3/1000 strokes : 13.0 +	GUIDE SLEEVE POSITION
Tolerance	GOIDE SLEEVE POSITION
cm3/1000 strokes : + 3.0	Rated speed rpm : 1045
Check tolerance +	
cm3/1000s. : + 6.0	Rack travel in mm : 13.00 Tolerance mm : + 1.30
Spreed + Tolerance +	Toterance mm : 7.50
cm3/1000 strokes : 8.0	
Check tolerance +	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : 10.0 +	Dated award www
I	Rated speed rpm : 550 Aneroid pressure
(B) SETTING OF INJECTION PUMP	hPa : 1200
WITH GOVERNOR +	Del. quantity
<b>†</b>	cm3/1000 strokes : 239.0
GUIDE SLEEVE TRAVEL	Tolerance cm3/1000 strokes : +- 1.0
GOING OFFER LIVARE	Check tolerance
Rated speed rpm : 300	cm3/1000s. : +- 4.0
guide sleeve	Spreed
travel mm : 1.49 + Tolerance mm : + 0.25 +	Tolerance cm3/1000 strokes : 6.0
roceratice iiiii	Check tolerance
Rated speed rpm : 1012	cm3/1000s. : 9.0
guide sleeve +	
travel mm : 8.56 + Tolerance mm : + 0.25 +	RATED SPEED
Toterance man . + 0.25	MATER SPEED
Rated speed rpm : 1600	
guide sleeve +	control lever
travel mm : 24.06 + Tolerance mm : + 0.25 +	position degree : 122.D tolerance degree : +- 4.0
Toterance init	toterance degree : +- 4.0
Rated speed rpm : 589	rack travel mm : 13.00
guide sleeve +	Rated speed rpm : 998
travel mm : 4.97 + Tolerance mm : + 0.25 +	Tolerance 1/min : +- 8
Tolerance mm : +- 0.25	rack travel mm : 4.00
Rated speed rpm : 639	Rated speed rpm : 1095
guide sleeve	Tolerance 1/min : + 15
travel mm : 5.51	modul travel ma
Tolerance mm : + 0.25	
<b>-</b>	rack travel mm : 0.75 Tolerance mm : + 0.75
Rated speed rpm : 790	Tolerance mm : +- 0.75 Rated speed rpm : 1350
Rated speed rpm : 790	Tolerance mm : +- 0.75

		+
	<del></del>	+ Pressure hPa : 300
LOW IDLE		rack travel mm : 11.90
		† Tolerance mm : + 0.15
		+
control lever		+ Pressure hPa : 450
position degree	: 68.0	rack travel mm : 12.90
tolerance degree	: ← 4.0	+ Tolerance mm : + 0.10
		+
Testing:		
		+ START CUT-OUT
Rated speed rpm	: 300	+
rack travel mm	: 5.50	+ Rated speed rpm : < 220
Tolerance mm	: ← 0.10	+ Check
		+ speed 1/min : < 240
Rated speed rpm	: 200	+
CRT mm min.	: > 7.60	+ FUEL DELIVERY CHARACTERISTICS
		+
Rated speed rpm	<b>:</b> 375	+ Aneroid pressure
		+ hPa : 1200
TORQUE CONTROL		+ Del. quantity
		+ cm3/1000 strokes : 216.0
Rated speed rpm	: 550	+ Tolerance
rack travel mm		+ cm3/1000 strokes : + 2.0
Toterance mm	: +- 0.05	+ Check tolerance
		+ cm3/1000s. : + 5.0
Rated speed rpm	<b>:</b> 950	Spreed
rack travel mm		+ Tolerance
Tolerance mm		+ cm3/1000 strokes : 8.0
rocer arice in	0.10	+ Check tolerance
Rated speed rpm	: 860	+ cm3/1000s. : 12.0
rack travel mm		1
Tolerance mm		Aneroid pressure
rocerance mm	0.10	hPa : -
Rated speed rpm	: 820	Rated speed rpm : 400
rack travel mm		Del. quantity
		+ cm3/1000 strokes : 107.0
Tolerance mm	: +- 0.10	<b>.</b>
		+ Tolerance + cm3/1000 strokes : +- 1.0
ANIEDOTO (AL TITILOE		
ANEROID/ALTITUDE		+ Check tolerance + cm3/1000s. : +- 4.0
COMPENSATOR TEST		
		+ Spreed
CCTTANC		+ Tolerance + cm3/1000 strokes : 8.0
SETTING		
		Check tolerance
Rated speed rpm	: 400	+ cm3/1000s. : 12.0
Pressure hPa	: 1200	†
rack travel mm	: 14.80	DOCALANA
Tolerance mm	: ← 0.05	+ BREAKAWAY
MEACHOEMENT		†
MEASUREMENT		1 000k + 100 km - 1 47 00
0		Rack travel in mm: 13.00
Pressure hPa		+ Rated speed rpm : 998
Rated speed rpm	: 400	† Tolerance 1/min : +- 8
rack travel mm	: 10.60	†
Tolerance mm	: <b>←</b> 0.20	†
	/00	DTARTIN FIRE AN TIPE
Rated speed rpm	: 400	+ STARTING FUEL DELIVERY

Rated speed rpm 100 15.30 rack travel mm : +- 0.25 Tolerance mm Del. quantity 200.0 cm3/1000 strokes : Tolerance cm3/1000 strokes : + 20.0

Check tolerance : +- 24.0 cm3/1000s.

LOW IDLE

300 Rated speed rpm 5.70 rack travel mm Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 13.0 Tolerance

3.0 cm3/1000 strokes : +-Check tolerance 6.0

cm3/1000s. Spreed

Tolerance cm3/1000 strokes : 8.0

Check tolerance cm3/1000s.

10.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.03.95 Test oil : ISO 4113

Combination No. : 0 402 648 940B

Injection pump

Pump designation : PE8P12OA32OLS7847-3

EP type number : 0 412 628 886

Governor

Governer design. : RQ300/950PA1032-8 Governer no.

: 0 421 801 723

: 0240740602 Cust. part No.

Customer-spec. information : MB-NFZ Customer : 0M402 LA Motor : 280.0 Power KW

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 417 413 025

1.5 Inlet press. bar : Tolerance bar : +-0.1

: +- 10.0 Tolerance l/h

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar

Test lines : 1 680 750 075 Outside diameter : 8.0

x inside diameter :

x length mm : 1000

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

5.55 Prestroke mm Tolerance mm : +- 0.05

test only  $: \leftarrow 0.10$ 

Rack travel in mm: 20.50 Tolerance mm : **←** 0.50

: 8-7-2-6-3 Firing order

: - 5- 4- 1

: 0-45-90-135-180 Phasing

: -225-270-315

: +- 0.30

Tolerance Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 8

#### BASIC SETTING

Rated speed rpm : 550

Rack travel in mm: 14.40 : + 0.05Tolerance mm

Del. quantity

cm3/1000 strokes : 226.0

Tolerance

cm3/1000 strokes : + 1.0

	<del></del>	- guide sleeve
Check tolerance	<del>1</del>	- travel mm : 6.00
cm3/1000s.	: <b>←</b> 4.0 †	Tolerance mm : + 0.10
Spreed	<u> </u>	- - Rated speed rpm : 1160
	Ī	•
Tolerance	· (0	guide steeve
cm3/1000 strokes	: 6.0	- travel mm : 11.50
	+	Tolerance mm : +- 0.50
Check tolerance	+	•
cm3/1000s.	: 9.0	- Rated speed rpm : 864
	+	- guide sleeve
Rated speed rpm	: 300	- travel mm : 6.26
•	1	- Tolerance mm : +- 0.10
Rack travel in mm	: 5.70	•
Tolerance mm	: + 0.30	
Del. quantity	1	- GUIDE SLEEVE POSITION
cm3/1000 strokes	: 13.0	
Tolerance	. 13.0	Rated speed rpm : 600
cm3/1000 strokes	: ÷ 3.0	nated speed (pill . 000
Check tolerance	3.0	Rack travel in mm : 20.00
	1	
cm3/1000s.	: +- 6.0	Tolerance mm : + 0.80
Spreed	†	•
Tolerance		
cm3/1000 strokes	: 6.0 +	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	+	•
cm3/1000s.	: 10.0	Rated speed rpm : 550
	+	Aneroid pressure
	+	hPa : 1200
(B) SETTING OF INJ	JECTION PUMP +	Del. quantity
WITH GOVERNOR	1	cm3/1000 strokes : 226.0
WITH GOVERNOR	1	
		Tolerance
	<del></del> ‡	Tolerance cm3/1000 strokes : +- 1.0
GUIDE SLEEVE TRAVE	<u> </u>	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
GUIDE SLEEVE TRAVE	· +	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
GUIDE SLEEVE TRAVE	: 300	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve	: 300 +	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm	: 300 +	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve	: 300 +	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.63 : + 0.10	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 +	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 300 : 1.63 : + 0.10 : 1005	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.63 : + 0.10 : 1005 : 6.69	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 300 : 1.63 : + 0.10 : 1005	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 300 : 1.63 : + 0.10 : 1005 : 6.69	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 300 : 1.63 : + 0.10 : 1005 : 6.69	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950 : 6.35	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 97.0
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 97.0 tolerance degree : + 4.0
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950 : 6.35 : + 0.10	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 13.00
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950 : 6.35	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 998
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950 : 6.35 : + 0.10 : 800	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 13.00
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950 : 6.35 : + 0.10 : 800 : 6.69	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 998 Tolerance 1/min : + 8
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950 : 6.35 : + 0.10 : 800	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950 : 6.35 : + 0.10 : 800 : 6.09 : + 0.10	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1080
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950 : 6.35 : + 0.10 : 800 : 6.69	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950 : 6.35 : + 0.10 : 800 : 6.09 : + 0.10 : 415	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1080 Tolerance 1/min : + 15
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950 : 6.35 : + 0.10 : 800 : 6.09 : + 0.10 : 415 : 3.72	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1080 Tolerance 1/min : + 15  rack travel mm : 15
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950 : 6.35 : + 0.10 : 800 : 6.09 : + 0.10 : 415	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1080 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : + 0.75
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950 : 6.35 : + 0.10 : 800 : 6.09 : + 0.10 : 415 : 3.72	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1080 Tolerance 1/min : + 15  rack travel mm : 15

LOW IDLE	
control lever position degree tolerance degree	: 72.0 : +- 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : 5.50 : + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	
Rated speed rpm	: 200
CRT mm min.	: > 7.00
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 550 : 14.40 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 950 : 14.15 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 870 : 14.30 : + 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 400 : 1200 : 14.40 : ← 0.05
MEASUREMENT	
Pressure hPa Ratëd speed rpm rack travel mm Tolerance mm	: 400 : 10.60 : + 0.20
Rated speed rpm	: 400

rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 11.90 : + 0.15 : 450 : 12.90 : + 0.10
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	
Tolerance	
cm3/1000 strokes Check tolerance	
cm3/1000s. Spreed	: <del>+</del> 5.0
Tolerance cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 12.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:
Rack travel in mm Rated speed rpm Tolerance 1/min	
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	

Pressure hPa : 300

Check tolerance		
cm3/1000s.	: +-	14.0

# LOW IDLE

Rated speed rpm	:	300
rack travel mm	:	5.70
Tolerance mm	: +-	0.30
Del. quantity		
cm3/1000 strokes	:	13.0
Tolerance		
cm3/1000 strokes	: +-	3.0
Check tolerance		
cm3/1000s.	: +-	6.0
Spreed		
Tolerance		
cm3/1000 strokes	:	6.0
Check tolerance		
cm3/1000s.	:	10.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.03.95 Test oil : ISO 4113

Combination No. : 0 402 648 941

#### Injection pump

Pump designation : PE8P120A320LS7847-3

EP type number : 0 412 628 886

#### Governor

Governer design. : RQV300...950PA1033

: -13

Governer no. : 0 421 814 094

Cust. part No. : 0240742202

Customer-spec. information
Customer : MB-NFZ
Motor : 0M402 LA
Power KW : 280.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5Tolerance bar :  $\leftarrow$  0.1

Tolerance l/h: + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.55Tolerance mm :  $\leftarrow$  0.05

test only : + 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3

Phasing : 0-45-90-135-180

: -225-270-315 Tolerance : +- 0.30

Check

tolerance  $^{\circ}NW$  : + 0.50

Start of delivery mark

Barrel no. : 8

#### BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.40 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 226.0

Tolerance cm3/1000 strokes :	+ 1.0	Rated speed rpm : 1100 guide sleeve
Check tolerance cm3/1000s.	+ 4.0	travel mm : 10.00 Tolerance mm : + 0.25
Spreed Tolerance cm3/1000 strokes :	6.0	Rated speed rpm : 1210 guide sleeve travel mm : 11.50 Tolerance mm : +- 0.50
Check tolerance cm3/1000s.	9.0	Total and the limit
Rated speed rpm :	300 ‡	GUIDE SLEEVE POSITION
	t	Rated speed rpm : 1050
Rack travel in mm : Tolerance mm : Del. quantity	5.70 +- 0.30	Rack travel in mm : 12.00 Tolerance mm : + 1.30
cm3/1000 strokes : Tolerance	13.0	
cm3/1000 strokes : Check tolerance	+ 3.0	FULL LOAD DELIVERY AT FULL LOAD STOP
	+ 6.0	Rated speed rpm : 550 Aneroid pressure
Tolerance	+	hPa : 1200
cm3/1000 strokes :	6.0	Del. quantity
Check tolerance cm3/1000s. :	10.0	cm3/1000 strokes : 226.0 Tolerance
· · · · · · · · · · · · · · · · · · ·	1	cm3/1000 strokes : + 1.0 Check tolerance
(B) SETTING OF INJECT WITH GOVERNOR	TION PUMP	cm3/1000s. : +- 4.0 Spreed
	TION PUMP	cm3/1000s. : +- 4.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL	<del></del>	cm3/1000S. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : quide sleeve	300	cm3/1000s. : + 4.0  Spreed  Tolerance cm3/1000 strokes : 6.0  Check tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm :	300	cm3/1000S. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm :	300	cm3/1000s. : + 4.0  Spreed  Tolerance cm3/1000 strokes : 6.0  Check tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm :	300 1.49 + 0.15	cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm :	300 1.49 ← 0.15 1009	cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm :	300 1.49 + 0.15 1009 8.52	cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm :	300 1.49 ← 0.15 1009	cm3/1000s. : + 4.0  Spreed  Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : + 4.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : guide sleeve travel mm : Tolerance mm : Tolerance mm :	300 1.49 ← 0.15 1009 8.52 ← 0.20	cm3/1000s. : + 4.0  Spreed  Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 13.00
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm :	300 1.49 + 0.15 1009 8.52	cm3/1000s. : + 4.0  Spreed  Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : + 4.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : guide sleeve travel mm : Guide sleeve travel mm : Guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm :	300 1.49 + 0.15 1009 8.52 + 0.20 589 4.97	cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 998 Tolerance 1/min : + 5
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : guide sleeve travel mm : Guide sleeve travel mm : Guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm :	300 1.49 + 0.15 1009 8.52 + 0.20	cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 998 Tolerance 1/min : + 5  rack travel mm : 4.00
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : guide sleeve travel mm : Guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Tolerance mm : Rated speed rpm : Guide sleeve	300 1.49 + 0.15 1009 8.52 + 0.20 589 4.97	cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 998 Tolerance 1/min : + 5
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : guide sleeve travel mm : Guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve	300 1.49 + 0.15 1009 8.52 + 0.20 589 4.97 + 0.25 639	cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 998 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1080 Tolerance 1/min : + 15
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : guide sleeve travel mm : Guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Tolerance mm : Rated speed rpm : Guide sleeve	300 1.49 ← 0.15 1009 8.52 ← 0.20 589 ← 4.97 ← 0.25	cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 998 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1080 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : 0.75 Tolerance mm : + 0.75
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm :  Rated speed rpm : guide sleeve travel mm : Tolerance mm :  Rated speed rpm : guide sleeve travel mm : Tolerance mm :  Rated speed rpm : guide sleeve travel mm : Tolerance mm :  Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : Rated speed rpm :	300 1.49 + 0.15 1009 8.52 + 0.20 589 4.97 + 0.25 639 5.51	cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 998 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1080 Tolerance 1/min : + 15  rack travel mm : 0.75
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : Tolerance mm : Tolerance mm : Tolerance mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve	300 1.49 + 0.15 1009 8.52 + 0.20 589 4.97 + 0.25 639 5.51 0.25	cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 998 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1080 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : 0.75 Tolerance mm : + 0.75
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm :  Rated speed rpm : guide sleeve travel mm : Tolerance mm :  Rated speed rpm : guide sleeve travel mm : Tolerance mm :  Rated speed rpm : guide sleeve travel mm : Tolerance mm :  Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : Rated speed rpm :	300 1.49 + 0.15 1009 8.52 + 0.20 58° 4.97 + 0.25 639 5.51 0.25 790	cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 121.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 998 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1080 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1350

and lavor		†
control lever position degree tolerance degree		START CUT-OUT
Testing:		+ Rated speed rpm : < 220 + Check
Rated speed rpm	: 300	+ speed 1/min : < 240
rack travel mm Tolerance mm	: 5.50 : + 0.10	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 200	Aneroid pressure
CRT mm min.	: > 7.60	hPa : 1200 Rated speed rpm : 950
Rated speed rpm	: 375	+ Del. quantity + cm3/1000 strokes : 216.0 + Tolerance
TORQUE CONTROL		+ cm3/1000 strokes : +- 2.0 + Check tolerance
Rated speed rpm	: 550	+ cm3/1000s. : + 5.0 + Spreed
rack travel mm Tolerance mm		Tolerance : 8.0
Rated speed rpm		+ Check tolerance + cm3/1000s. : 12.0
rack travel mm Tolerance mm		Aneroid pressure
Rated speed rpm rack travel mm	: 870 · 14 30	Rated speed rpm : 400  Del. quantity
Tolerance mm		cm3/1000 strokes : 107.0
ANEROID/ALTITUDE		cm3/1000 strokes : +- 1.0 Check tolerance
COMPENSATOR TEST		+ cm3/1000s. : + 4.0 + Spreed
SETTING		Tolerance cm3/1000 strokes : 8.0
Rated speed rpm Pressure hPa	: 1200	+ Check tolerance - cm3/1000s. : 12.0 -
rack travel mm Tolerance mm	: 14.40 : + 0.05	BREAKAWAY
MEASUREMENT		+ Rack travel in mm : 13.00
Pressure hPa Rated speed rpm rack travel mm Tolerance mm		Rated speed rpm : 998 Tolerance 1/min : + 5
Rated speed rom		STARTING FUEL DELIVERY
Pressure hPa	: 300	Rated speed rpm : 100
rack travel mm Tolerance mm	: 11.90 :	Del. quantity + cm3/1000 strokes : 200.0
Pressure hPa rack travel mm	: 450 : 12. <i>9</i> 0	+ Tolerance + cm3/1000 strokes : + 10.0 + Check tolerance
Tolerance mm	: + 0.10	cm3/1000s. : +- 14.0

# LOW IDLE

Rated speed rpm 300 5.70 rack travel mm 0.30 Tolerance mm Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.03.95 Test oil : ISO 4113

Combination No. : 0 402 648 942

Injection pump

Pump designation : PE8P120A320LS7847-3

EP type number : 0 412 628 886

Governor

Governer design. : RQ300/950PA1031-16

Governer no. : 0 421 801 722

Cust. part No. : 0240742302

Customer-spec. information
Customer : MB-NFZ
Motor : 0M402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110 Tolerance L/h : ← 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance :  $\leftarrow$  0.30

Check

tolerance °NW :  $\leftarrow$  0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.40 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 226.0

		† Tolerance mm : +- 0.10
Tolerance	. 4.5	+
cm3/1000 strokes	: +- 1.0	Rated speed rpm : 550
Check tolerance		+ guide sleeve + travel mm : 6.00
cm3/1000s.	: +- 4.0	Tolerance mm : +- 0.10
		+
Spreed		Rated speed rpm : 1160
Tolerance	4.0	+ guide sleeve
cm3/1000 strokes	: 6.0	+ travel mm : 11.50
Check tolerance		† Tolerance mm : + 0.50
cm3/1000s.	: 9.0	Rated speed rpm : 864
		guide sleeve
Rated speed rpm	: 300	travel mm : 6.26
	F 70	† Tolerance mm : +- 0.10
Rack travel in mm		†
Tolerance mm Del. quantity	: - 0.30	GUIDE SLEEVE POSITION
cm3/1000 strokes	: 13.0	TOTAL SECENCE FOOTFICE
Tolerance		Rated speed rpm : 600
cm3/1000 strokes	: <b>←</b> 3.0	<del> </del>
Check tolerance		+ Rack travel in mm: 20.00
cm3/1000s.	: ← 6.0	Tolerance mm : +- 0.80
Spreed Tolerance		I
cm3/1000 strokes	: 6.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance		+
cm3/1000s.	: 10.0	+ Rated speed rpm : 550
		+ Aneroid pressure
(D) SETTING OF IN	HECTTON DIMO	+ hPa : 1200
(B) SETTING OF IN	JECTION PUMP	+ hPa : 1200 + Del. quantity
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	+ hPa : 1200
WITH GOVERNOR		<pre>hPa : 1200</pre>
		<pre>hPa : 1200 bel. quantity cm3/1000 strokes : 226.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance</pre>
WITH GOVERNOR  GUIDE SLEEVE TRAV	PEL	+ hPa : 1200 + Del. quantity + cm3/1000 strokes : 226.0 + Tolerance + cm3/1000 strokes : + 1.0 + Check tolerance + cm3/1000s. : + 4.0
GUIDE SLEEVE TRAV		<pre>hPa : 1200 bel. quantity cm3/1000 strokes : 226.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed</pre>
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve	'EL : 300	+ hPa : 1200 + Del. quantity - cm3/1000 strokes : 226.0 + Tolerance - cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0 - Spreed - Tolerance
GUIDE SLEEVE TRAV	PEL	<pre>hPa : 1200 bel. quantity cm3/1000 strokes : 226.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance</pre>
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.63 : + 0.10	<pre>hPa : 1200 bel. quantity cm3/1000 strokes : 226.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0</pre>
WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm	EL: 300:: 1.63:	<pre>hPa : 1200 bel. quantity cm3/1000 strokes : 226.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance</pre>
WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	: 300 : 1.63 : + 0.10 : 1005	hPa : 1200  bel. quantity cm3/1000 strokes : 226.0  Tolerance cm3/1000 strokes : + 1.0  Check tolerance cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 6.0  Check tolerance cm3/1000 strokes : 9.0
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm	EL : 300 : 1.63 : ← 0.10 : 1005 : 6.69	<pre>hPa : 1200 bel. quantity cm3/1000 strokes : 226.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance</pre>
WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	: 300 : 1.63 : + 0.10 : 1005	hPa : 1200  bel. quantity cm3/1000 strokes : 226.0  Tolerance cm3/1000 strokes : + 1.0  Check tolerance cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 6.0  Check tolerance cm3/1000 strokes : 9.0
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm Rated speed rpm	EL : 300 : 1.63 : ← 0.10 : 1005 : 6.69	hPa : 1200  bel. quantity cm3/1000 strokes : 226.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 9.0  RATED SPEED
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950	hPa : 1200  bel. quantity cm3/1000 strokes : 226.0  Tolerance cm3/1000 strokes : + 1.0  Check tolerance cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 6.0  Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 97.0
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950 : 6.35	hPa : 1200  bel. quantity cm3/1000 strokes : 226.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 9.0  RATED SPEED
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950	hPa : 1200  Del. quantity cm3/1000 strokes : 226.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 97.0 tolerance degree : + 4.0
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950 : 6.35	hPa : 1200  bel. quantity cm3/1000 strokes : 226.0  Tolerance cm3/1000 strokes : + 1.0  Check tolerance cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 6.0  Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 97.0
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950 : 6.35 : + 0.10 : 800	hPa : 1200  bel. quantity cm3/1000 strokes : 226.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  RATED SPEED  rack travel mm : 13.00
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950 : 6.35 : + 0.10 : 800 : 800 : 6.09	hPa : 1200  bel. quantity cm3/1000 strokes : 226.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  RATED SPEED  control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 998 Tolerance 1/min : + 8
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950 : 6.35 : + 0.10 : 800	hPa : 1200  Del. quantity cm3/1000 strokes : 226.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   Control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL : 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950 : 6.35 : + 0.10 : 800 : 6.09 : + 0.10	hPa : 1200  Del. quantity cm3/1000 strokes : 226.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   Control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1080
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950 : 6.35 : + 0.10 : 800 : 800 : 6.09	hPa : 1200  Del. quantity cm3/1000 strokes : 226.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   Control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL : 300 : 1.63 : + 0.10 : 1005 : 6.69 : + 0.10 : 950 : 6.35 : + 0.10 : 800 : 6.09 : + 0.10	hPa : 1200  Del. quantity cm3/1000 strokes : 226.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   Control lever position degree : 97.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 998 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1080

Tolerance mm Rated speed rpm	: +- 0.75 : 1350	Pressure hPa : 300 rack travel mm : 11.90 Tolerance mm : + 0.15
LOW IDLE		Tocci and in the second
		+ Pressure hPa : 450
		rack travel mm : 12.90
control lever		+ rack travel mm : 12.90 + Tolerance mm : + 0.10
position degree	: 69.0	+
tolerance degree	: +- 4.0	
		+ START CUT-OUT
Testing:		+
	700	+ Rated speed rpm : > 220
Rated speed rpm	: 300	+ Check
rack travel mm	: 3.50	+ speed 1/min : > 240
Tolerance mm	: ← 0.10	. †
rack travel mm	: 2.00	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm		I LOFF REFINENT CHARACTERISTICS
Rated speed rpm Tolerance 1/min	: +- 20	Aneroid pressure
TO CET GITTE TANKET	20	+ hPa : 1200
Dated encod man	• 200	Rated speed rpm : 950
Rated speed rpm	. 200	+ Rated speed rpm : 950 + Del. quantity
CRT mm min.	. > 7 nn	+ cm3/1000 strokes : 216.0
CKI mm miri.	: > 7.00	+ Tolerance
TODOLIC CONTROL		+ Check tolerance
TORQUE CONTROL		+ cm3/1000s. : +- 5.0
	. 550	1
Rated speed rpm rack travel mm	: 220 • 47 66	+ Spreed
		+ Tolerance
Tolerance mm	: +- 0.05	+ cm3/1000 strokes : 8.0
	- acu	+ Check tolerance
Rated speed rpm	: 950	+ cm3/1000s. : 12.0
rack travel mm Tolerance mm	: 14.15	T
oterance mm	: +- G.10	+ Aneroid pressure
	. 070	thPa : -
Rated speed rpm	: 8/U	Rated speed rpm : 400
rack travel mm		Del. quantity
rolerance mm	: ← 0.05	+ cm3/1000 strokes : 107.0
		+ Tolerance
NICOOTO / AL TITUS		
NEROID/ALTITUDE		+ Check tolerance + cm3/1000s. : +- 4.0
COMPENSATOR TEST		+ cm5/10005. : +- 4.0 + Spreed
		+ Spreed + Tolerance
CTTTAIC		+ roterance + cm3/1000 strokes : 8.0
SETTING		+ cms/ludu strokes : 8.0 + Check tolerance
loted annual	. /.00	7 (4000)
Rated speed rpm	: 400 : 1200	+ cm3/100US. : 12.0
Pressure hPa	: 1200	<u> </u>
rack travel mm Tolerance mm	: + 0.05	BREAKAWAY
OCETATIVE HIR	0.05	I
MEASUREMENT		<b>1</b>
INDUNE IEIVI		Rack travel in mm: 13.00
Pressure hPa	• –	Rated speed rpm : 998
Rated speed rpm	: 400	+ Tolerance 1/min : +- 8
ack travel mm	: 10.60	Total and the first
olerance mm	: +- 0.20	1
Occidence min	0.20	
ated speed rpm	: 400	
ated opeca : piii	. 100	WITHING TO Whaten the banks of balls f

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 200.0
Tolerance
cm3/1000 strokes : +- 10.0
Check tolerance

: +- 14.0

## LOW IDLE

cm3/1000s.

300 Rated speed rpm rack travel mm 5.70 0.30 Tolerance mm Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 10.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 03.08.95 : ISO 4113

Combination No. : 0 402 648 946

Injection pump

Pump designation : PE8P12OA32OLS7847-3

EP type number : 0 412 628 886

Governor

Governer design. : RQ300/1050PA1031-15

Governer no. : 0 421 801 721

Cust. part No. : 0230747902

Customer-spec. information Customer : MB-NFZ Motor : 0M402 LA Power KW : 280.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

1.5 Inlet press. bar : Tolerance bar : + 0.1

Tolerance l/h: +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

3.0 x inside diameter :

x Length mm : 1000

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm: 20.50 Tolerance mm : +- 0.50

: 8-7-2-6-3 Firing order

: - 5- 4- 1

: 0-45-90-135-180 Phasing

: -225-270-315 : +- C.30 Tolerance

Check

tolerance "NW : + 0.50

Start of delivery mark

Barrel no. : 8

## BASIC SETTING

550 Rated speed rpm :

Rack travel in mm: 14.40 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 226.0

Tolerance

cm3/1000 strokes : + 1.0

K06

	<del></del>	guide sleeve
Check tolerance	+	travel mm : 6.00
cm3/1000s.	: <del>+-</del> 4.0 +	Tolerance mm : + 0.10
Canad		Rated speed rpm : 1270
Spreed	Ť	
Tolerance	†	guide sleeve
cm3/1000 strokes	: 6.0	travel mm : 11.50
	+	Tolerance mm : + 0.50
Check tolerance	+	
cm3/1000s.	: 9.0	Rated speed rpm : 844
	+	guide sleeve
Rated speed rpm	: 300	travel mm : 6.23
matte opece i piii	1	Tolerance mm : +- 0.10
Rack travel in m	n: 5.70	TOTAL INTERNATION TO THE TOTAL OF THE TOTAL
Tolerance mm	": + 0.30 I	
	. += 0.30	CHINE CLEENE DOCTETAN
Del. quantity	12.0	GUIDE SLEEVE POSITION
cm3/1000 strokes	: 13.0 +	
Tolerance		Rated speed rpm : 600
cm3/1000 strokes	: ← 3.0 +	
Check tolerance	+	Rack travel in mm : 20.00
cm3/1000s.	: ← 6.0 +	Tolerance mm : + 0.80
Spreed	+	
Tolerance	1	
cm3/1000 strokes	: 6.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	1	TOLE EOND DELIVERY AT TOLE LOND OTO
cm3/1000S.	: 10.0 I	Rated speed rpm : 550
CIRST TOUGS.	: 10.0	
	†	Aneroid pressure
	†	hPa : 1200
(B) SETTING OF IN	NECTION PUMP +	Del. quantity
	<u>.1.</u>	cm3/1000 etnokoe + 226 0
WITH GOVERNOR	T	cm3/1000 strokes : 226.0
WITH GOVERNOR	Į	Tolerance
WITH GOVERNOR		
		Tolerance cm3/1000 strokes : +- 1.0
GUIDE SLEEVE TRAV	/EL +	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
GUIDE SLEEVE TRAV	+	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
GUIDE SLEEVE TRAV	/EL -	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve	: 300	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000S. : +- 4.0 Spreed Tolerance
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm	: 300 : 1.75	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve	: 300	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.75 : ← 0.10	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: 300 : 1.75 : ← 0.10	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 300 : 1.75 : + 0.10 : 1104	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: 300 : 1.75 : + 0.10 : 1104 : 6.64	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 300 : 1.75 : + 0.10 : 1104	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 300 : 1.75 : + 0.10 : 1104 : 6.64	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.75 : + 0.10 : 1104 : 6.64 : + 0.10	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm	: 300 : 1.75 : + 0.10 : 1104 : 6.64	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 300 : 1.75 : → 0.10 : 1104 : 6.64 : → 0.10 : 1050	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 99.0
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.75 : + 0.10 : 1104 : 6.64 : + 0.10 : 1050 : 6.30	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 300 : 1.75 : → 0.10 : 1104 : 6.64 : → 0.10 : 1050	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 99.0 tolerance degree : + 4.0
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	: 300 : 1.75 : + 0.10 : 1104 : 6.64 : + 0.10 : 1050 : 6.30 : + 0.10	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 99.0 tolerance degree : + 4.0 rack travel mm : 13.00
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.75 : + 0.10 : 1104 : 6.64 : + 0.10 : 1050 : 6.30	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 1098
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.75 : ← 0.10 : 1104 : 6.64 : ← 0.10 : 1050 : 6.30 : ← 0.10 : 790	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 99.0 tolerance degree : + 4.0 rack travel mm : 13.00
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.75 : ← 0.10 : 1104 : 6.64 : ← 0.10 : 1050 : 6.30 : ← 0.10 : 790 : 6.08	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 1098 Tolerance 1/min : + 8
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.75 : ← 0.10 : 1104 : 6.64 : ← 0.10 : 1050 : 6.30 : ← 0.10 : 790	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 1098 Tolerance 1/min : + 8  rack travel mm : 4.00
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.75 : ← 0.10 : 1104 : 6.64 : ← 0.10 : 1050 : 6.30 : ← 0.10 : 790 : 6.08	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 1098 Tolerance 1/min : + 8
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	: 300 : 1.75 : ← 0.10 : 1104 : 6.64 : ← 0.10 : 1050 : 6.30 : ← 0.10 : 790 : 6.08	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 1098 Tolerance 1/min : + 8  rack travel mm : 4.00
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 300 : 1.75 : + 0.10 : 1104 : 6.64 : + 0.10 : 1050 : 6.30 : + 0.10 : 790 : 6.08 : + 0.10	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 1098 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1190
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.75 : + 0.10 : 1104 : 6.64 : + 0.10 : 1050 : 6.30 : + 0.10 : 790 : 6.08 : + 0.10 : 407	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 1098 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1190 Tolerance 1/min : + 15
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.75 : + 0.10 : 1104 : 6.64 : + 0.10 : 1050 : 6.30 : + 0.10 : 790 : 6.08 : + 0.10 : 407 : 4.27	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 1098 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1190 Tolerance 1/min : + 15  rack travel mm : 0.70
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.75 : + 0.10 : 1104 : 6.64 : + 0.10 : 1050 : 6.30 : + 0.10 : 790 : 6.08 : + 0.10 : 407	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 1098 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1190 Tolerance 1/min : + 15  rack travel mm : 0.70 Tolerance mm : + 0.70
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.75 : + 0.10 : 1104 : 6.64 : + 0.10 : 1050 : 6.30 : + 0.10 : 790 : 6.08 : + 0.10 : 407 : 4.27	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED   control lever position degree : 99.0 tolerance degree : + 4.0  rack travel mm : 13.00 Rated speed rpm : 1098 Tolerance 1/min : + 8  rack travel mm : 4.00 Rated speed rpm : 1190 Tolerance 1/min : + 15  rack travel mm : 0.70

		+		
LOW IDLE		<del></del>	Rated speed rpm	: 400
		1	Pressure hPa	: 450
		+	rack travel mm	: 12.90
control lever		+	Tolerance mm	: <del></del> 0.10
position degree		+	D	700
tolerance degree	: +- 4.0	†	Pressure hPa	: 300 : 11.90
Testing:		Ī	rack travel mm Tolerance mm	
rescrig.		Ī	rocerance nan	. 1- 0.15
Rated speed rpm		+	<del></del>	
rack travel mm		+	START CUT-OUT	
Tolerance mm	: <b>←</b> 0.10	+		4 000
	2 00	†	Rated speed rpm	: < 220
rack travel mm Rated speed rpm		. †	Check speed 1/min	: < 240
Tolerance 1/min		I	Speed Militi	: < 240
TOCCI GIVE TAMATA		1		
Rated speed rpm	: 200	1	FUEL DELIVERY CHA	ARACTERISTICS
CRT mm min.	: > 5.10	<b>1</b>	Aneroid pressure	
		+	hPa	: 1200
	<del></del>		Rated speed rpm	: 1050
TORQUE CONTROL		+	Del. quantity	
	250	+	cm3/1000 strokes	: 212.0
Rated speed rpm		†	Tolerance	
rack travel mm		†	cm3/1000 strokes Check tolerance	: +- 2.0
Tolerance mm	: +- 0.05	I	cm3/1000s.	: <del></del> 5.0
Rated speed rpm	: 1050	I	Spreed	
rack travel mm		+	Tolerance	
Tolerance mm		+	cm3/1000 strokes	: 8.0
		+	Check tolerance	
Rated speed rpm	: 950	+	cm3/1000s.	: 12.0
rack travel mm		†		
Tolerance mm	: <b>←</b> 0.10	†	Aneroid pressure	•
Dated speed spm	: 800	Ī	hPa Rated speed rpm	400
Rated speed rpm rack travel mm	: 14.40	I	Del. quantity	. 400
Tolerance mm	· + 0.10	I	cm3/1000 strokes	: 107.0
10ter and a min		1	Tolerance	. ,
	····		cm3/1000 strokes	: <del>+</del> 1.0
ANEROID/ALTITUDE		+	Check tolerance	
COMPENSATOR TEST		+	cm3/1000s.	: <del>+-</del> 4.0
		†	Spreed	
		+	Tolerance	
SETTING		†	cm3/1000 strokes Check tolerance	: 8.0
Rated speed rpm	: 400	I	cm3/1000s.	: 12.0
Pressure hPa	: 1200	I	11100 ·	
rack travel mm	: 14.40	1	<del></del>	
Tolerance mm	: <b>←</b> 0.05	+	BREAKAWAY	
MEASUREMENT		1		
HEMOUNEHEAL		I	Rack travel in mm	: 13.00
Pressure hPa	: -	1	Rated speed rpm	
Rated speed rpm	: 400	+	Tolerance 1/min	
rack travel mm	: 10.60	+		
Tolerance mm	: <b>←</b> 0.15	+		

2

## STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 285.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. :  $\leftarrow$  14.0

## LOW IDLE

300 Rated speed rpm 5.70 rack travel mm : +- 0.30 Tolerance mm Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s.6.0 Spreed Tolerance 6.0 cm3/1000 strokes : Check tolerance 10.0 cm3/1000s.

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 30.05.95 Edition Test oil : ISO 4113

Combination No. : 0 402 648 964

## Injection pump

Pump designation : PE8P120A920/4LS7266

: -1

EP type number : 0 412 628 898

Governor

Governer design. : RQ1050PA758-19 : 0 421 801 688 Governer no.

Cust. part No. : 1340531

Customer-spec. information Customer : SCANIA : D 14 Motor

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Vibration damper

(RoBo diaphragm) : 3.2

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5 : +-Tolerance bar

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

251.5 bar Tolerance bar

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 600 x length mm :

## REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values \_\_\_\_\_

#### BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar :  $\leftarrow$  1.0

5.05 Prestroke mm Tolerance mm : + 0.50

: + 0.10test only

Rack travel in mm: 10.50 : **←** 1.50 Tolerance mm

: 1-2-7-3-4 Firing order

: - 5- 6- 8

: 0-45-90-135-180 Phasing : -225-270-315

: **←** 0.30 Tolerance

Check

: + - 0.50tolerance °NW

Start of delivery mark

1 Barrel no.

## BASIC SETTING

Rated speed rpm : 850

Rack travel in mm: 14.45 iolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 262.0	tolerance degree : +- 4.0
	control lever
Tolerance cm3/1000 strokes : +- 1.0	position degree : 92.0 tolerance degree : +- 4.0
Check tolerance cm3/1000s. : + 4.0	
Spreed	ANEROID/ALTITUDE
Tolerance cm3/1000 strokes : 8.0	COMPENSATOR TEST
Check tolerance cm3/1000s. : 12.0	SETTING
+	Rated speed rpm : 500
` ‡	Pressure hPa : 1500
Rack travel in mm: 5.30	rack travel mm : 14.45
Tolerance mm : + 0.10 + Del. quantity	Tolerance mm : + 0.05
cm3/1000 strokes : 16.0 + Tolerance	MEASUREMENT
cm $3/1000$ strokes : $+$ 4.0 $+$	Pressure hPa : -
Check tolerance +	Rated speed rpm : 500
cm3/1000s. : + 6.0	rack travel mm : 11.00
Spreed +	Tolerance mm : + 0.20
Tolerance +	
cm3/1000 strokes : 5.0 + Check tolerance +	Rated speed rpm : 500
cm3/1000s. : 9.0 +	Pressure hPa : 220
+	rack travel mm : 12.00
+	Tolerance mm : + 0.20
(B) SETTING OF INJECTION PUMP +	
WITH GOVERNOR +	Pressure hPa : 510
+	rack travel mm : 13.95
+	Tolerance mm : + 0.05
<del></del>	
FULL LOAD DELIVERY AT FULL LOAD STOP	
Rated speed rpm : 850 + Aneroid pressure	FUEL DELIVERY CHARACTERISTICS
hPa : 1500 +	Aneroid pressure
Del. quantity	hPa : -
cm3/1000 strokes : 262.0 +	Rated speed rpm : 500
Tolerance +	Del. quantity
cm3/1000 strokes : + 1.0 +	cm3/1000 strokes : 177.0
Check tolerance	Tolerance
cm3/1000s. : +- 4.0	cm3/1000 strokes : +- 1.0
Spreed	Check tolerance
Tolerance	cm3/1000s. : +- 4.0
cm3/1000 strokes : 8.0	
Check tolerance	
cm3/1000s. : 12.0	
1	
	STARTING FUEL DELIVERY
RATED SPEED	
+	Rated speed rpm : 100
1	rack travel mm : 11.00
control lever	Tolerance mm : + 0.20
position degree : 30.0	
pos. 1 101 aug 100 1	

Tolerance cm3/1000 strokes : +- 10.0 Check tolerance

Check tolerance cm3/1000s. : + 14.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 30.05.95 Edition Test oil : ISO 4113

Combination No. : 0 402 648 965

Injection pump

Pump designation : PE8P120A920/4LS7266

: -1

EP type number : 0 412 628 898

Governor

Governer design. : RQ900PA758-20 : 0 421 801 689 Governer no.

Cust. part No. : 1340616

Customer-spec. information Customer : SCANIA Motor : D 14

#### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Vibration damper

(RoBo diaphragm) : 3.2

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5 Tolerance bar

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

251.5 bar Tolerance bar

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

: 600 x length mm

#### REMARKS

Start-of-delivery setting with ROBO

diaphragm.

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

#### BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 5.05 Tolerance mm : + 0.05

test only : + - 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

: 1-2-7-3-4 Firing order

: - 5- 6- 8

: 0-45-90-135-180 Phasing : -225-270-315

: + 0.30Tolerance

Check

: + 0.50tolerance "NW

Start of delivery mark

Barrel no. 1

#### BASIC SETTING

850 Rated speed rpm

Rack travel in mm: 14.95

: +- 0.05 Tolerance mm

Del. quantity	tolerance degree : + 4.0
cm3/1000 strokes : 287.0	control lever
Tolerance cm3/1000 strokes : + 1.0	position degree : 87.0 tolerance degree : +- 4.0
Check tolerance cm3/1000s. : +- 4.0	
Spreed -	ANEROID/ALTITUDE COMPENSATOR TEST
cm3/1000 strokes : 8.0	COMPENSATOR TEST
Check tolerance - cm3/1000s. : 12.0 -	SETTING
. 7	- Rated speed rpm : 500 Pressure hPa : 1500
Rack travel in mm : 5.30	rack travel mm : 14.95
Tolerance mm : + 0.10  Del. quantity	- Tolerance mm : +- 0.05
cm3/1000 strokes : 16.0 - Tolerance -	- MEASUREMENT
cm3/1000 strokes : +- 4.0	- Pressure hPa : -
Check tolerance	- Rated speed rpm : 500
cm3/1000s. : +- 6.0	- rack travel mm : 11.00
Spreed -	Tolerance mm : + 0.20
Tolerance - cm3/1000 strokes : 5.0 - Check tolerance -	- Rated speed rpm : 500
cm3/1000s. : 9.0	- Pressure hPa : 220
. 7.0	rack travel mm : 12.00 Tolerance mm : + 0.20
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	- Pressure hPa : 510
+	- rack travel mm : 13.95
<del>1</del>	Tolerance mm : $+$ 0.05
FULL LOAD DELIVERY AT FULL LOAD STOP	
Rated speed rpm : 700 Aneroid pressure	- FUEL DELIVERY CHARACTERISTICS
hPa : 1500	- Aneroid pressure
Del. quantity	- hPa : -
cm3/1000 strokes : 287.0	- Rated speed rpm : 500
Tolerance + 1	- Del. quantity
cm3/1000 strokes : +- 1.0 +- Check tolerance +-	- cm3/1000 strokes : 177.0 - Tolerance
cm3/1000s. : +- 4.0	- cm3/1000 strokes : +- 1.0
Spreed	- Check tolerance
Tolerance +	- cm3/1000s. : +- 4.0
cm3/1000 strokes : 8.0	-
Check tolerance	•
cm3/1000s. : 12.0 +	-
+	
DATE OFF	STARTING FUEL DELIVERY
RATED SPEED	. Datad anned sure : 400
†	- Rated speed rpm : 100 - rack travel mm : 11.00
control leven	rack travel mm : 11.00 Tolerance mm : + 0.20
control lever + position degree : 26.0 +	· · · · · · · · · · · · · · · · · · ·
position degree . Lo.0 T	

Del. quantity cm3/1000 strokes : 130.0

Tolerance

cm3/1000 strokes : +- 20.0 Check tolerance cm3/1000s. : +- 24.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 17.02.95 Edition : ISO 4113 Test oil

Combination No. : 0 402 648 974

Injection pump

Pump designation : PE8P12OA32OLS7875 EP type number : 0 412 628 881

Governor

Governer design. : RQ250/1150PA1122 : 0 421 801 704 Governer no.

Cust. part No.

Customer-spec. information : DAEWOO Customer Motor : V2-8TC

TEST BENCH REQUIREMENTS

: 3.1 Inlet line

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

: 1 417 413 025 Overflow valve

Inlet press. bar : Tolerance bar 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 : +- 1.5 Tolerance bar

: 1 680 750 089 Test lines

Outside diameter : 8.0 x inside diameter : 3.0 x length mm 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +-

Prestroke mm 5.20 Tolerance mm : **←** 0.05

test only : + 0.10

Rack travel in mm: 16.00 : **←** 1.50 Tolerance mm

: 8-7-2-6-3 Firing order : - 5- 4- 1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : + - 0.30

Check

tolerance °NW : **←** 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 13.60 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 208.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

Check tolerance cm3/1000s. : +- 4.0	travel mm : 11.50 Tolerance mm : +- 0.50
Spreed	
Tolerance cm3/1000 strokes : 7.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : 10.0	Rated speed rpm : 600
Rated speed rpm : 300	Rack travel in mm : 20.00 Tolerance mm : + 0.80
Rack travel in mm: 5.80 Tolerance mm: +- 0.20	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 18.0 Tolerance	Rated speed rpm : 1150 Aneroid pressure
cm3/1000 strokes : +- 3.0 Check tolerance	hPa : - Del. quantity
cm3/1000s. : +- 6.0 Spreed	cm3/1000 strokes : 208.0 Tolerance
Tolerance cm3/1000 strokes : 5.0	cm3/1000 strokes : +- 1.0 Check tolerance
Check tolerance cm3/1000s. : 8.0	+ cm3/1000s. : +- 4.0 + Spreed
(B) SETTING OF INJECTION PUMP	+ Tolerance + cm3/1000 strokes : 7.0 + Check tolerance
WITH GOVERNOR	cm3/1000s. : 10.0
GUIDE SLEEVE TRAVEL	RATED SPEED
Rated speed rpm : 300 guide sleeve	control lever
travel am : 2.39	position degree : 34.0
Tolerance mm : + 0.10	tolerance degree : + 4.0
Rated speed rpm : 1207 guide sleeve	control lever position degree : 95.0
travel mm : 6.36	tolerance degree : + 4.0
Tolerance mm : + 0.10	rack travel mm : 12.60
Rated speed rpm : 650	Rated speed rpm : 1202 Tolerance 1/min : + 8
guide sleeve	+
travel mm : 6.00	/ 20
travel mm : 6.00 Tolerance mm : +- 0.10	rack travel mm : 4.00 Rated speed rpm : 1280
travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 382 guide sleeve	Rated speed rpm : 1280 Tolerance 1/min : +- 15
travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 382	Rated speed rpm : 1280
travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 382 guide sleeve travel mm : 5.26 Tolerance mm : + 0.10  Rated speed rpm : 450 guide sleeve	Rated speed rpm : 1280 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1350
travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 382 guide sleeve travel mm : 5.26 Tolerance mm : + 0.10  Rated speed rpm : 450	Rated speed rpm : 1280 Tolerance 1/min : +- 15 rack travel mm : 0.50

tolerance degree : +- 4.0 +	
control lever position degree : 14.0	FUEL DELIVERY CHARACTERISTICS
tolerance degree : +- 4.0	Aneroid pressure
<del>-</del>	hPa : -
Testing:	Rated speed rpm : 650 Del. quantity
Rated speed rpm : 300	cm3/1000 strokes : 226.0
rack travel mm : 5.80	Tolerance
Tolerance mm : + 0.10	cm3/1000 strokes : +- 3.0
	Check tolerance
rack travel mm : 2.00	cm3/1000s. : $+-$ 6.0
Rated speed rpm : 375	• • •
Tolerance 1/min : + 20	Aneroid pressure
	hPa : -
Rated speed rpm : 200	Rated speed rpm : 500
†	Del. quantity
CRT mm min. :> 9.20 +	cm3/1000 strokes : 137.0
<del>†</del>	Tolerance
	cm3/1000 strokes : +- 1.0
TORQUE CONTROL +	Check tolerance
+	cm3/1000s. : +- 4.0
Rated speed rpm : 650 +	
rack travel mm : 13.60 +	
Tolerance mm : + 0.05 +	BREAKAWAY
+	
+	
ANEROID/ALTITUDE +	Rack travel in mm : 12.60
COMPENSATOR TEST +	Rated speed rpm : 1202
+	Tolerance 1/min : +- 8
+	
SETTING +	
<u> </u>	
Rated speed rpm : 500 +	STARTING FUEL DELIVERY
Pressure hPa : 1500 +	- ·
rack travel mm : 13.60	Del. quantity
Tolerance mm : + 0.05 +	cm3/1000 strokes : 203.0
†	Tolerance
MEASUREMENT +	cm3/1000 strokes : + 10.0
<b>+</b>	Check tolerance
Pressure hPa : - +	cm3/1000s. : +- 14.0
Rated speed rpm : 500 +	
rack travel mm : 9.00 +	
Tolonomoo mm + 4 (1.20	
Tolerance mm : + 0.20 +	
+	
Rated speed rpm : 500	LOW IDLE
Rated speed rpm : 500	
Rated speed rpm : 500 + Pressure hPa : 650 +	Rated speed rpm : 300
Rated speed rpm : 500 + Pressure hPa : 650 + rack travel mm : 12.50 + Page 12.50	Rated speed rpm : 300 rack travel mm : 5.80
Rated speed rpm : 500 + Pressure hPa : 650 +	Rated speed rpm : 300 rack travel mm : 5.80 Tolerance mm : + 0.20
Rated speed rpm : 500  Pressure hPa : 650 rack travel mm : 12.50 Tolerance mm : + 0.20	Rated speed rpm : 300 rack travel mm : 5.80 Tolerance mm : + 0.20 Del. quantity
Rated speed rpm : 500  Pressure hPa : 650 rack travel mm : 12.50 Tolerance mm : + 0.20  Pressure hPa : 250	Rated speed rpm : 300 rack travel mm : 5.80 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 18.0
Rated speed rpm : 500  Pressure hPa : 650 rack travel mm : 12.50 Tolerance mm : + 0.20  Pressure hPa : 250 rack travel mm : 10.00	Rated speed rpm : 300 rack travel mm : 5.80 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 18.0 Tolerance
Rated speed rpm : 500  Pressure hPa : 650 rack travel mm : 12.50 Tolerance mm : + 0.20  Pressure hPa : 250	Rated speed rpm : 300 rack travel mm : 5.80 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : + 3.0
Rated speed rpm : 500  Pressure hPa : 650 rack travel mm : 12.50 Tolerance mm : + 0.20  Pressure hPa : 250 rack travel mm : 10.00	Rated speed rpm : 300 rack travel mm : 5.80 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance
Rated speed rpm : 500  Pressure hPa : 650 rack travel mm : 12.50 Tolerance mm : + 0.20  Pressure hPa : 250 rack travel mm : 10.00 Tolerance mm : ÷ 0.05	Rated speed rpm : 300 rack travel mm : 5.80 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0
Rated speed rpm : 500  Pressure hPa : 650 rack travel mm : 12.50 Tolerance mm : + 0.20  Pressure hPa : 250 rack travel mm : 10.00	Rated speed rpm : 300 rack travel mm : 5.80 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed
Rated speed rpm : 500  Pressure hPa : 650 rack travel mm : 12.50 Tolerance mm : + 0.20  Pressure hPa : 250 rack travel mm : 10.00 Tolerance mm : ÷ 0.05	Rated speed rpm : 300 rack travel mm : 5.80 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance
Rated speed rpm : 500  Pressure hPa : 650 rack travel mm : 12.50 Tolerance mm : + 0.20  Pressure hPa : 250 rack travel mm : 10.00 Tolerance mm : ÷ 0.05	Rated speed rpm : 300 rack travel mm : 5.80 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed

cm3/1000s.	:	8.0	
	<del></del>		

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.04.95 Test oil : ISO 4113

Combination No. : 0 402 648 982

Injection pump

Pump designation : PE8P120A320LS7884 EP type number : 0 412 628 900

Governor

Governer design. : RQV350...1200PA1197

Governer no. : 0 421 814 116

Cust. part No. : 0250744102

Customer-spec. information

: MTU Customer

: 8V-183-03 Motor

Power KW : 564.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 : +-Tolerance bar 0.1

Tolerance l/h: + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar

Test lines : 1 680 750 075 Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 4.05 Tolerance mm : +- 0.05

test only : + 0.10

Rack travel in mm: 20.50 Tolerance mm : +- 0.50

: 8-7-2-6-3 :-5-4-1 Firing order

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance : +- 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 600

9.50 Rack travel in mm:

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 260.5

Tolerance

cm3/1000 strokes : + 1.0

		+ guide sleeve	
Check tolerance		+ travel mm : 3.65	
cm3/1000s.	: <del>←</del> 4.0	+ Tolerance mm : + 0.25	
		+	
Spreed		+ Rated speed rpm : 1360	
Tolerance		+ guide sleeve	
cm3/1000 strokes	• 80	+ travel mm : 10.00	
CIBY 1000 SCIOKES	. 0.0	+ Tolerance mm : +- 0.25	
Check tolerance		T Total and The U.D	
	. 42.0	1/70	
cm3/1000s.	: 12.0	+ Rated speed rpm : 1470	
		+ guide sleeve	
Rated speed rpm	: 350	† travel mm : 11.50	
		+ Tolerance mm : + 0.50	
Rack travel in mm		+	
Tolerance mm	: ← 0.30		
Del. quantity		+ GUIDE SLEEVE POSITION	
cm3/1000 strokes	: 15.0		
Tolerance		Rated speed rpm : 1320	
cm3/1000 strokes	· +- 30	1 Marca opeca i piii	
Check tolerance	,	Rack travel in mm: 13.00	
cm3/1000s.	: +- 6.0	Tolerance mm : + 1.30	
	: 0.0	Toterance inin : + 1.50	
Spreed		†	
Tolerance			
cm3/1000 strokes	: 8.0	+ FULL LOAD DELIVERY AT FULL LOAD ST	<b>TOP</b>
Check tolerance		+	
cm3/1000s.	: 12.0	+ Rated speed rpm : 600	
		+ Aneroid pressure	
		+ hPa : 650	
(B) SETTING OF IN	LIFCTION PUMP	+ Del. quantity	
WITH GOVERNOR		+ cm3/1000 strokes : 260.5	
WZIII GOVERNON		+ Tolerance	
		cm3/1000 strokes : +- 1.0	
GUIDE SLEEVE TRAV	ici	Check tolerance	
GOIDE SPEENE INVA	EL		
	750		
Rated speed rpm	: 350	+ Spreed	
guide sleeve		† Tolerance	
travel mm	: 1.53	+ cm3/1000 strokes : 8.0	
Tolerance mm	: <del>+-</del> 0.20	+ Check tolerance	
		+ cm3/1000s. : 12.0	
Rated speed rpm	: 1255	+	
guide sleeve		+	
travel mm	: 8.31	+ RATED SPEED	
Tolerance mm	: +- 0.15		
		1	
Rated speed rpm	: 1000	+ control lever	
guide sleeve	. 1000	position degree : 120.0	
travel mn	: 5.83	tolerance degree : + 4.0	
		T toterance degree 4.0	
Tolerance mm	: <del>+-</del> 0.25	12 70	
	407	+ rack travel mm : 12.70	
Rated speed rpm	: 407	Rated speed rpm : 1245	
guide sleeve		+ Tolerance 1/min : + 5	
travel mm	: 2.57	+	
Tolerance mm			
tofet ditte im	: + 0.25	+ rack travel mm : 4.00	
totel direc inii		+ Rated speed rpm : 1345	
Rated speed rpm	: + 0.25	+ Rated speed rpm : 1345	
Rated speed rpm guide sleeve	: ← 0.25 : 457	Rated speed rpm : 1345 Tolerance 1/min : + 15	
Rated speed rpm guide sleeve travel mm	<ul><li>: ← 0.25</li><li>: 457</li><li>: 3.13</li></ul>	Rated speed rpm : 1345 Tolerance 1/min : + 15 rack travel mm : 0.50	
Rated speed rpm guide sleeve	: ← 0.25 : 457	Rated speed rpm : 1345 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50	
Rated speed rpm guide sleeve travel mm	<ul><li>: ← 0.25</li><li>: 457</li><li>: 3.13</li></ul>	Rated speed rpm : 1345 Tolerance 1/min : + 15 rack travel mm : 0.50	

		+ Pressure hPa : 1000
LOW IDLE		+ Pressure hPa : 1000 + rack travel mm : 10.50 + Tolerance mm : + 0.10
control lever		
position degree tolerance degree		+ START CUT-OUT
Testing:		Rated speed rpm : < 270 Check
•	750	speed 1/min : < 290
Rated speed rpm rack travel mm		İ
Tolerance mm		FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 250	Aneroid pressure
CRT mm min.	: > 5.30	+ hPa : 2000 + Rated speed rpm : 1200
CKI IMM IIIIII.	: > 3.30	Del. quantity
Rated speed rpm	<b>:</b> 450	- cm3/1000 strokes : 334.0
		+ Tolerance
TOROUE CONTROL		
TORQUE CONTROL		- cm3/1000s. : +- 4.5
Rated speed rpm	: 600	Spreed
rack travel mm	: 9.50	Tolerance
Tolerance mm	: ← 0.05	- cm3/1000 strokes : 10.0
Detail amond our	. 4000	+ Check tolerance
Rated speed rpm rack travel mm		± cm3/1000s. : 14.0
Tolerance mm	: ← 0.10	Aneroid pressure
10201 01100 1111	0.10	+ hPa : 2000
Rated speed rpm	: 750	Rated speed rpm : 750
rack travel mm	: 13.75	+ Del. quantity
Tolerance mm	: ← 0.10	+ cm3/1000 strokes : 389.5
		+ Tolerance + cm3/1000 strokes : +- 4.0
ANEROID/ALTITUDE		Check tolerance
COMPENSATOR TEST		cm3/1000s. : +- 7.0
		Aneroid pressure
		+ hPa :
MEASUREMENT		+ Rated speed rpm : 500
Pressure hPa		+ Del. quantity + cm3/1000 strokes : 127.0
Rated speed rpm	500	+ Tolerance
rack travel mm	: 6.00	+ cm3/1000 strokes : +- 1.0
Tolerance mm	: +- 0.15	+ Check tolerance
		+ cm3/1000s. : +- 4.0
Pressure hPa	: 500	+ Spreed
rack travel mm	9.00	+ Tolerance + cm3/1000 strokes : 8.0
Tolerance mm	: +- 0.05	Check tolerance
Pressure hPa	: 250	+ cm3/1000s. : 12.0
rack travel mm	7.30	+
Tolerance mm	: + 0.10	
	A . ==	BREAKAWAY
Pressure hPa	: 1400	†
rack travel mm	: 12.50	Pack thought in man a 12.70
Tolerance mm	: +- 0.05	+ Rack travel in mm : 12.70

Rated speed rpm : 1245 Tolerance 1/min : + 5

## STARTING FUEL DELIVERY

100 Rated speed rpm :

Del. quantity cm3/1000 strokes : 415.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  20.0

Check tolerance

cm3/1000s. : +- 24.0

## LOW IDLE

350 Rated speed rpm 3.80 rack travel mm : +- 0.30 Tolerance mm Del. quantity cm3/1000 strokes : 15.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance 8.0 cm3/1000 strokes : Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 28.08.95 : ISO 4113 Test oil

Combination No. : 0 402 666 800

Injection pump

Pump designation: PE6P120A320/3LS7854

: -2

EP type number : 0 412 626 935

Governor

Governer design. : RSV600...1050P0A826

: -7

: 0 421 833 453 Governer no.

Cust. part No. : 0240747002

Customer-spec. information : MB-NFZ Customer : OM 441 LA Motor : 265.0 Power KW

#### TEST BENCH REQUIREMENTS

: 3.1 Inlet line

Test oil inlet

temp. °C 40 : + 2.0 Tolerance °C

: 1 417 413 025 Overflow valve

Inlet press. bar : : +- 0.1 Tolerance bar

Overflow quantity

110 min. l/h Tolerance 1/h : +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar

Tolerance bar : +- 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm 5.25 Tolerance mm : + 0.05

test only :+ 0.10

Rack travel in mm: 20.50 Tolerance mm : +- 0.50

: 6-3-5-2-4-Firing order

: 1

: 0-60-120-180-240 Phasing

: -300

: + - 0.30Tolerance

Check

: **←** 0.50 tolerance "NW

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1030

Rack travel in mm: 14.50

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 256.0	Check tolerance cm3/1000s. : +- 4.0 Spreed
Tolerance cm3/1000 strokes : + 1.0	Tolerance cm3/1000 strokes : 6.0 Check tolerance
Check tolerance cm3/1000s. : + 4.0	cm3/1000s. : 9.0
Spreed Tolerance cm3/1000 strokes : 6.0	RATED SPEED
Check tolerance cm3/1000s. : 9.0	control lever position degree : 87.0 tolerance degree : + 4.0
Rated speed rpm : 500	LOW IDLE
Rack travel in mm: 3.70 + Tolerance mm: → 0.30 +	FOM THE
Del. quantity	control lever
cm3/1000 strokes : 17.0	position degree : 71.0
Tolerance +	tolerance degree : + 4.0
cm3/1000 strokes : +- 3.0 +	
Check tolerance +	Testing:
cm3/1000s. : +- 6.0 +	
Spreed +	Rated speed rpm : 600_
Tolerance	rack travel mm : 3.70
cm3/1000 strokes : 8.0 +	Tolerance mm : + 0.10
Check tolerance	2.00
cm3/1000s. : 12.0 +	rack travel mm : 2.00
†	Rated speed rpm : 630
(D) CETTING OF THIS COTTON CHIND	Tolerance 1/min : +- 30
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 100
<u> </u>	CRT mm min. : > 19.50
GUIDE SLEEVE POSITION	SET IDLE AUXILIARY SPRING
Rated speed rpm : 800	rack travel mm : 2.00
Rack travel in mm: 0.50 Tolerance mm: + 0.20	TORQUE CONTROL
governor spring	Rated speed rpm : 1030
pre-tension +	rack travel mm : 14.50
click setting x : 4.00	Tolerance mm : $\leftarrow$ 0.05
+	
	Rated speed rpm : 600
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 14.50
+	Tolerance mm : + 0.10
Rated speed rpm : 1030	
Aneroid pressure	
hPa : - +	
Del. quantity	PILE DEL TUEDO ALIADA STERVATARA
cm3/1000 strokes : 256.0	FUEL DELIVERY CHARACTERISTICS
Tolerance + 1.0	Anamaid property
cm3/1000 strokes : +- 1.0 +	Aneroid pressure hPa : -

Rated speed rpm : 600 Del. quantity 271.0 cm3/1000 strokes : Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0 STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes :  $\leftarrow$  10.0 Check tolerance cm3/1000s. : +- 14.0 LOW IDLE 600 Rated speed rpm 3.70 rack travel mm Tolerance mm : **←** 0.30 Del. quantity 17.0 cm3/1000 strokes : Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 : +-Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 23.08.95 Edition Test oil : ISO 4113

Combination No. : 0 402 735 805

Injection pump

Pump designation : PES5P120A720/3LS7250

: 0 412 725 809 EP type number

Governor

: RQV325...1000PA962 Governer design.

: -6K

: 0 421 815 301 Governer no.

Cust. part No. : 3-7202

Customer-spec. information : MAN

Customer : D2865LF06/LU06 Motor

Power KW : 235.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C 2.0

: 1 417 413 025 Overflow valve

1.5 Inlet press. bar : Tolerance bar

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar 1.5 Tolerance bar

Test Lines : 1 680 750 089 Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : +- 1.0

Prestroke mm 4.85 : +- 0.05 Tolerance mm

: + 0.10 test only

Rack travel in mm : 15.50 : + 0.50Tolerance mm

Firing order : 1-3-5-4-2

: 0-72-144-216-288 Phasing

Tolerance : **←** 0.30

Check

tolerance "NW : + 0.50

Start of delivery blocking

5 Barrel no.

BASIC SETTING

Rated speed rpm : 700

5.00 Rack travel in mm:

: + 0.10Tolerance mm

Tolerance

cm3/1000 strokes : + 8.0

Check tolerance

: +- 14.0 cm3/1000s.

Spreed

		1
Tolerance	7.5	† D. J. J. J. J. J. J. J. J. J. J. J. J. J.
cm3/1000 strokes	: 3.5	Rated speed rpm : 810
Ohaali malamana		guide sleeve
Check tolerance		+ travel mm : 6.08
cm3/1000s.	: 6.0	+ Tolerance mm : +- 0.25
Detect aread are		Total annual annual 252
Rated speed rpm	: 900	+ Rated speed rpm : 352
		guide sleeve travel mm : 3.13
Rack travel in mm	. 42 /5	• · · · · · · · · · · · · · · · · · · ·
		+ Tolerance mm : + 0.25
Tolerance mm	: +- 0.05	Rated speed rpm : 402
Dal grandsta.		
Del. quantity	. 2/4.0	guide sleeve
cm3/1000 strokes	: 261.0	+ travel mm : 3.98
<b>T</b> -1	<del></del>	+ Tolerance mm : + 0.25
Tolerance	4.0	Detail amond many 1 510
cm3/1000 strokes	: <b>←</b> 1.0	Rated speed rpm : 510
		guide sleeve
Check tolerance		+ travel mm : 4.42
cm3/1000s.	: <del></del>	+ Tolerance mm : + 0.25
Spreed		+ Rated speed rpm : 1198
Tolerance		+ guide sleeve
cm3/1000 strokes	: 10.0	† travel mm : 12.00
		+ Tolerance mm : + 0.25
Check tolerance		+
cm3/1000s.	: 14.0	+ Rated speed rpm : 1290
		+ guide sleeve
Rated speed rpm	: 350	+ travel mm : 13.50
		+ Tolerance mm : + 0.50
Rack travel in mm	: 5.00	4
Tolerance mm	: +- 0.20	
Del. quantity		+ GUIDE SLEEVE POSITION
cm3/1000 strokes	: 50.0	<del>}</del>
Tolerance		Rated speed rpm : 1180
cm3/1000 strokes	: <del>+-</del> 3.0	<del>}</del>
Check tolerance		+ Rack travel in mm : 11.20
cm3/1000S.	: +- 6.0	+ Tolerance mm : + 2.00
Spreed		<del> </del>
Tolerance		
cm3/1000 strokes	: 10.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance		1
cm3/1000s.	: 14.0	Rated speed rpm : 900
		+ Aneroid pressure
		+ hPa : 1200
(B) SETTING OF INJ	JECTION PUMP	+ Del. quantity
WITH GOVERNOR		+ cm3/1000 strokes : 261.0
		+ Tolerance
GUIDE SLEEVE TRAVE	EL	- Check tolerance
	<del></del>	+  cm3/1000s. : +- 4.0
Rated speed rpm	: 350	+ Spreed
guide sleeve		+ Tolerance
travel mm	: 3.30	+ cm3/1000 strokes : 10.0
Tolerance mm	: + 0.25	Check tolerance
		+ cm3/1000s. : 14.0
Rated speed rpm	: 1055	1 110001
guide sleeve	000	
travel mm	: 8.92	+ RATED SPEED
Tolerance mm	: +- 0.25	101120 01220
intermite in	• • • • • • • • • • • • • • • • • • • •	į –

		1
control lever		T
position degree		+ ANEROID/ALTITUDE
tolerance degree	: +- 4.0	COMPENSATOR TEST
rack travel mm	: 11.20	<u> </u>
Rated speed rpm	: 1045	SETTING
Tolerance 1/min	: <del>←</del> 5	Potent amond man
rack travel mm	: 4.00	+ Rated speed rpm : 900 + Pressure hPa : 1200
Rated speed rpm		rack travel mm : 12.45
Tolerance 1/min	: <del></del> 15	Tolerance mm : +- 0.05
rack travel mm	: 0.50	# MEASUREMENT
Tolerance mm	: +- 0.50	- CIENDONE IEI
Rated speed rpm	: 1250	Pressure hPa : -
		Rated speed rpm : 900
LOW IDLE		rack travel mm : 8.40 Tolerance mm : + 0.10
FOM TOPE		Toterance in : Total
		Rated speed rpm : 900
control lever position degree	• 2/4 0	+ Pressure hPa : 600
tolerance degree		rack travel mm : 11.45
toto, unito dog. of		+ Tolerance mm : + 0.15
Testing:		+
Dotad aroad nam	: 350	+ Pressure hPa : 170 + rack travel mm : 8.75
Rated speed rpm rack travel mm		Tolerance mm : + 0.05
Tolerance mm	: + 0.10	- Total and the many
		OTANT OUT OUT
Rated speed rpm	: 250	+ START CUT-OUT
CRT mm min.	: > 6.50	Rated speed rpm : < 290
Dotted opened nom	: 395	+ Check + speed 1/min : < 310
Rated speed rpm	: 395	+ speed 1/18/11 : \ 310
TORQUE CONTROL	·· <u>································</u> ······	FUEL DELIVERY CHARACTERISTICS
TORGOL CONTROL		+ TOLE PERIOR CHARACTERISTICS
Rated speed rpm	: 900	+ Aneroid pressure
rack travel mm Tolerance mm	: 12.45 : +- 0.05	+ hPa : 1200 + Rated speed rpm : 1000
roterance nm	. +- 0.05	+ Del. quantity
Rated speed rpm	: 1000	+ cm3/1000 strokes : 246.0
rack travel mm	: 12.20	+ Tolerance
Tolerance mm	: + 0.10	+ cm3/1000 strokes : +- 3.0 + Check tolerance
Rated speed rpm	: 650	+ cm3/1000s. : + 6.0
rack travel mm	: 12.10	+
Tolerance mm	: <b>←</b> 0.10	+ Aneroid pressure
Datad aroud nam	: 650	+ hPa : 1200 + Rated speed rpm : 650
Rated speed rpm rack travel mm	: 650 : 5.50	+ Del. quantity
Tolerance mm	: +- 0.10	+ cm3/1000 strokes : 273.0
		Tolerance
Rated speed rpm	: 400	+ cm3/1000 strokes : + 3.0 + Check tolerance
rack travel mm Tolerance mm	: 11.25 : ← 0.15	+ cm3/1000s. : + 6.0
TOTAL GIRLS		+
		•

Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  BREAKAWAY  Rack travel in mm Rated speed rpm	: 1045
Tolerance 1/min	: +- 5
STARTING FUEL DELI	:VERY
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 190.0 : + 10.0 : + 14.0
LOW IDLE	
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 350 : 5.00 : ← 0.20 : 50.0 : ← 3.0 : ← 6.0

cm3/1000 strokes : 10.0 Check tolerance cm3/1000s. : 14.0

End of test specification sheet

Tolerance

# BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 14.08.95 Test oil : ISO 4113 Combination No. : 0 402 735 809 Injection pump Pump designation : PES5P120A720/3LS7310 EP type number : 0 412 725 817 Governor Governer design. : RQ325/1000PA1106 Governer no. : 0 421 801 698 Cust. part No. : 51.11103-7302 Customer-spec. information : MAN Customer : D 2865 LUH 05 Motor Power KW : 198.0

TEST BENCH REQUIR	REMENTS
Inlet line	: 4.1
Test oil inlet temp. °C Tolerance °C	: 40 : +- 2.0

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow valve : 1 417 413 025

Overflow quantity
min. l/h : 115
Tolerance l/h : + 20.0

Test nozzle holde assembly : 1 688 901 105

Opening pressure bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089 Outside diameter : 8.0 x inside diameter: 3.0 x length mm : 600 REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values \_\_\_\_ BEGINNING OF DELIVERY Test pressure bar : 26.0 Tolerance bar : + 1.0 Prestroke mm 5.15 Tolerance mm : + 0.05test only  $: \leftarrow 0.10$ Rack travel in mm: 12.80 : + 0.50 Tolerance mm Firing order : 1-3-5-4-2 : 0-72-144-216-288 Phasing Tolerance : + - 0.30Check tolerance \*NW : +- 0.50 Start of delivery blocking Barrel no. 5 BASIC SETTING 550 Rated speed rpm : Rack travel in mm: 11.50 : +- 0.05 Tolerance mm Del. quantity cm3/1000 strokes : 255.0 Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

	+	guide sleeve	
Check tolerance	+	travel mm	: 7.00
cm3/1000s. : +-	4.0	Tolerance mm	: +- 0.10
Spreed	<del></del>	Rated speed rpm	: 1210
Tolerance	Ŧ		. 1210
	5.0	guide sleeve	. 44 50
cm3/1000 strokes :	5.0	travel mm	: 11.50
	<del></del>	Tolerance mm	: <del>+-</del> 0.50
Check tolerance	+		
cm3/1000s. :	9.0	Rated speed rpm	: 802
	+	guide sleeve	
Rated speed rpm :	325	travel mm	: 7.23
	1	Tolerance mm	: +- 0.10
Rack travel in mm :	4.80		
Tolerance mm : +-	0.20		
Del. quantity	0.20	GUIDE SLEEVE POSIT	TON
	37.0 I	GOIDE SEENE POST!	7014
cm3/1000 strokes :	37.0	Data danced www	. 700
Tolerance	†	Rated speed rpm	: 700
cm3/1000 strokes : +-	3.0		
Check tolerance	+	Rack travel in mm	
cm3/1000s. : +-	6.0	Tolerance mm	: +- 0.80
Spreed	+		
Tolerance	+		
cm3/1000 strokes :	8.0	FULL LOAD DELIVERY	AT FULL LOAD STOP
Check tolerance	1		/ 522 23 5
cm3/1000s. :	12.0	Rated speed rpm	: 550
CIID/ 10005.	7	Aneroid pressure	. 550
	Ţ		: 900
(a) and all all all all all all all all all al	1	hPa	: 900
(B) SETTING OF INJECTION	ON PUMP †	Del. quantity	
LITTU COMEDNOD	+	cm3/1000 strokes	: 255.0
WITH GOVERNOR	1		. 255.0
MILL GOVERNOR	+	Tolerance	- · ·
WITH GOVERNOR			- · ·
GUIDE SLEEVE TRAVEL	‡	Tolerance	- · ·
	<u> </u>	Tolerance cm3/1000 strokes Check tolerance	: + 1.0
GUIDE SLEEVE TRAVEL	325	Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 1.0
GUIDE SLEEVE TRAVEL Rated speed rpm :	325	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: + 1.0
GUIDE SLEEVE TRAVEL Rated speed rpm : guide sleeve	1	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: + 1.0 : + 4.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm :	2.70	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: + 1.0 : + 4.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm :	1	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: + 1.0 : + 4.0 : 5.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +-	2.70 0.10	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: + 1.0 : + 4.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +-  Rated speed rpm : 1	2.70	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: + 1.0 : + 4.0 : 5.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +-  Rated speed rpm : 1 guide sleeve	2.70 0.10 1059	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 1.0 : + 4.0 : 5.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +-  Rated speed rpm : 1 guide sleeve travel mm :	2.70 0.10 1059 7.62	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: + 1.0 : + 4.0 : 5.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +-  Rated speed rpm : 1 guide sleeve	2.70 0.10 1059	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 1.0 : + 4.0 : 5.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +-  Rated speed rpm : 1 guide sleeve travel mm :	2.70 0.10 1059 7.62	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 1.0 : + 4.0 : 5.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +-  Rated speed rpm : 1 guide sleeve travel mm : Tolerance mm : +-	2.70 0.10 1059 7.62	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 1.0 : + 4.0 : 5.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +-  Rated speed rpm : 1 guide sleeve travel mm : Tolerance mm : +-  Rated speed rpm : 1	2.70 0.10 1059 7.62 0.10	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  RATED SPEED  control lever	: + 1.0 : + 4.0 : 5.0 : 9.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +  Rated speed rpm : 1 guide sleeve travel mm : Tolerance mm : +  Rated speed rpm : 1 guide sleeve travel mm : Tolerance mm : +	2.70 0.10 1059 7.62 0.10	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  RATED SPEED  control lever position degree	: + 1.0 : + 4.0 : 5.0 : 9.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +-  Rated speed rpm : 1 guide sleeve travel mm : Tolerance mm : +-  Rated speed rpm : 1 guide sleeve travel mm : 1	2.70 0.10 1059 7.62 0.10	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  RATED SPEED  control lever	: + 1.0 : + 4.0 : 5.0 : 9.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +  Rated speed rpm : 1 guide sleeve travel mm : Tolerance mm : +  Rated speed rpm : 1 guide sleeve travel mm : Tolerance mm : +	2.70 0.10 1059 7.62 0.10	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  RATED SPEED  control lever position degree tolerance degree	: + 1.0 : + 4.0 : 5.0 : 9.0 : + 103.0 : + 4.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +  Rated speed rpm : 1 guide sleeve travel mm : Tolerance mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Tolerance mm : +  Tolerance mm : +	2.70 0.10 1059 7.62 0.10 7.30 0.10	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  RATED SPEED  control lever position degree tolerance degree rack travel mm	: + 1.0 : + 4.0 : 5.0 : 9.0 : + 103.0 : + 4.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : +	2.70 0.10 1059 7.62 0.10	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  RATED SPEED  control lever position degree tolerance degree rack travel mm Rated speed rpm	: + 1.0 : + 4.0 : 5.0 : 9.0 : + 103.0 : + 4.0 : 12.00 : 1053
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +	2.70 0.10 1059 7.62 0.10 7.30 0.10	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  RATED SPEED  control lever position degree tolerance degree rack travel mm	: + 1.0 : + 4.0 : 5.0 : 9.0 : + 103.0 : + 4.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +  Rated speed rpm : 1 guide sleeve travel mm : Tolerance mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : 2 guide sleeve travel mm : +  Rated speed rpm : 3	2.70 0.10 1059 7.62 0.10 1000 7.30 0.10 769	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  RATED SPEED  control lever position degree tolerance degree rack travel mm Rated speed rpm Tolerance 1/min	: + 1.0 : + 4.0 : 5.0 : 9.0 : + 4.0 : 12.00 : 1053 : + 8
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +	2.70 0.10 1059 7.62 0.10 7.30 0.10	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  RATED SPEED  control lever position degree tolerance degree rack travel mm Rated speed rpm Tolerance 1/min rack travel mm	: + 1.0 : + 4.0 : 5.0 : 9.0 : + 4.0 : 12.00 : 1053 : + 8 : 4.00
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 5 guide sleeve travel mm : +-  Rated speed rpm : Guide sleeve travel mm : +-  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : Guide sleeve travel mm : +-	2.70 0.10 1059 7.62 0.10 1000 7.30 0.10 769 7.08 0.10	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  RATED SPEED  control lever position degree tolerance degree rack travel mm Rated speed rpm Tolerance 1/min	: + 1.0 : + 4.0 : 5.0 : 9.0 : 103.0 : + 4.0 : 12.00 : 1053 : + 8 : 4.00 : 1130
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +  Rated speed rpm : 1 guide sleeve travel mm : Tolerance mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : 5 Tolerance mm : +  Rated speed rpm : Tolerance mm : +	2.70 0.10 1059 7.62 0.10 1000 7.30 0.10 769	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  RATED SPEED  control lever position degree tolerance degree rack travel mm Rated speed rpm Tolerance 1/min rack travel mm	: + 1.0 : + 4.0 : 5.0 : 9.0 : + 4.0 : 12.00 : 1053 : + 8 : 4.00
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +-  Rated speed rpm : 1 guide sleeve travel mm : Tolerance mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : Guide sleeve travel mm : +-  Rated speed rpm : Guide sleeve travel mm : +-  Rated speed rpm : Guide sleeve travel mm : +-  Rated speed rpm : +-  Rated speed rpm : +-	2.70 0.10 1059 7.62 0.10 1000 7.30 0.10 769 7.08 0.10	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  RATED SPEED  control lever position degree tolerance degree rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Rated speed rpm	: + 1.0 : + 4.0 : 5.0 : 9.0 : 103.0 : + 4.0 : 12.00 : 1053 : + 8 : 4.00 : 1130
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +-  Rated speed rpm : 1 guide sleeve travel mm : Tolerance mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : guide sleeve	2.70 0.10 1059 7.62 0.10 1000 7.30 0.10 769 7.08 0.10	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  RATED SPEED  control lever position degree tolerance degree rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min	: + 1.0 : + 4.0 : 5.0 : 9.0 : 103.0 : + 4.0 : 12.00 : 1053 : + 8 : 4.00 : 1130 : + 15
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : guide sleeve travel mm : +-	2.70 0.10 1059 7.62 0.10 1000 7.30 0.10 769 7.08 0.10 399	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  RATED SPEED  control lever position degree tolerance degree rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min	: + 1.0 : + 4.0 : 5.0 : 9.0 : 103.0 : + 4.0 : 12.00 : 1053 : + 8 : 4.00 : 1130 : + 15 : 0.50
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +-  Rated speed rpm : 1 guide sleeve travel mm : Tolerance mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : 1 guide sleeve travel mm : +-  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : guide sleeve travel mm : +-  Rated speed rpm : guide sleeve	2.70 0.10 1059 7.62 0.10 1000 7.30 0.10 769 7.08 0.10	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  RATED SPEED  control lever position degree tolerance degree rack travel mm Rated speed rpm Tolerance 1/min  rack travel mm Tolerance 1/min  rack travel mm Tolerance 1/min	: + 1.0 : + 4.0 : 5.0 : 9.0 : 103.0 : + 4.0 : 12.00 : 1053 : + 8 : 4.00 : 1130 : + 15 : 0.50 : + 0.50
GUIDE SLEEVE TRAVEL  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : 1 guide sleeve travel mm : +  Rated speed rpm : guide sleeve travel mm : +  Rated speed rpm : guide sleeve travel mm : +  Rated speed rpm : guide sleeve travel mm : +  Rated speed rpm : guide sleeve travel mm : +  Rated speed rpm : guide sleeve travel mm : +  Rated speed rpm : guide sleeve travel mm : +	2.70 0.10 1059 7.62 0.10 1000 7.30 0.10 769 7.08 0.10 399	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  RATED SPEED  control lever position degree tolerance degree rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min	: + 1.0 : + 4.0 : 5.0 : 9.0 : 103.0 : + 4.0 : 12.00 : 1053 : + 8 : 4.00 : 1130 : + 15 : 0.50

		+ rack travel mm : 9.20
LOW IDLE		Tolerance mm : + 0.15
COM IDEE		Pressure hPa : 600
annhaal layan		rack travel mm : 10.95
control lever position degree	• 73.0	† Tolerance mm : +- 0.15
tolerance degree	: + 4.0	Pressure hPa : 1100
101014.100 403.00	,,,,	rack travel mm : 11.90
Testing:		Tolerance mm : + 0.10
Rated speed rpm	: 325	Pressure hPa : 1350
rack travel mm	: 4.80	rack travel mm : 12.60
rack travel mm Tolerance mm	: +- 0.10	rack travel mm : 12.60 Tolerance mm : + 0.15
rack travel mm	. 200	1
Rated speed rpm	: 390	
Tolerance 1/min	: +- 20	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 200	Aneroid pressure
abood this		+ hPa : 2000
CRT mm min.	: > 6.50	Arted speed rpm : 1000
		† Del. quantity
TORQUE CONTROL		† Tolerance
Dakad amand man		+ cm3/1000 strokes : +- 3.0
Rated speed rpm rack travel mm		+ Check tolerance + cm3/1000s. : +- 6.0
Tolerance mm	: +- 0.05	T (1107 10005. : + 0.0
TOTEL BLICE IIII	0.05	Aneroid pressure
Rated speed rpm	: 1000	hPa : 2000
rack travel mm	: 13.00	Rated speed rpm : 750
Tolerance mm	: <b>←</b> 0.10	+ Del. quantity
		+ cm3/1000 strokes : 286.0
Rated speed rpm	: 750 : 13.00	+ Tolerance
rack travel mm Tolerance mm	: 13.00 : + 0.10	+ cm3/1000 strokes : +- 2.0 + Check tolerance
rocerance mm	: 0.10	+ cm3/1000s. :+- 5.0
		<del></del> }
ANEROID/ALTITUDE		Aneroid pressure
COMPENSATOR TEST		+ hPa : - Rated speed rpm : 500
		+ Del. quantity
SETTING		+ cm3/1000 strokes : 169.0
		+ Tolerance
Rated speed rpm	: 500	+ cm3/1000 strokes : +- 1.0
Pressure hPa	: 2000	+ Check tolerance
rack travel mm	: 13.00	+ cm3/1000s. : +- 4.0
Tolerance mm	: +- 0.05	İ
MEASUREMENT		BREAKAWAY
Pressure hPa	<b>:</b> -	1
Rated speed rpm	500	Rack travel in mm: 12.00
rack travel mm	: 8.90	+ Rated speed rpm : 1053
Tolerance mm	: <b>←</b> 0.10	Tolerance 1/min : +- 8
Rated speed rpm	: 500	Ţ
Pressure hPa	: 250	+ STARTING FUEL DELIVERY
Coon o in M		1 Comments of the Comments of

Rated speed rpm rack travel mm Tolerance mm	: : +-	100 8.90 0.20
Del. quantity cm3/1000 strokes Tolerance	:	95.0
cm3/1000 strokes Check tolerance	: +-	10.0
cm3/1000s.	: +-	14.0

## LOW IDLE

325 Rated speed rpm 4.80 rack travel mm Tolerance mm : +- 0.20 Del. quantity cm3/1000 strokes : 37.0 Tolerance cm3/1000 strokes 3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 22.08.95 Edition Test oil : ISO 4113

Combination No. : 0 402 735 812

Injection pump

Pump designation : PES5P120A720/3LS7250

: -1

EP type number : 0 412 725 819

Governor

Governer design. : RQV325...1000PA962

: -6K

: 0 421 815 301 Governer no.

Cust. part No. : 51.11103-7323

Customer-spec. information

Customer : MAN

Motor : D2865LF06/LU06

Power KW : 235.0

#### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 115 Tolerance L/h : + 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar

Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar: Tolerance bar : + 1.0

Prestroke mm : 4.85 Tolerance mm

test only : + - 0.10

Rack travel in mm : 15.50 Tolerance mm :  $\leftarrow$  0.50

Firing order : 1-3-5-4-2

Phasing : 0-72-144-216-288

Tolerance : +- 0.30

Check

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.50

Start of delivery blocking

5 Barrel no.

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 5.00

Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 79.0

Tolerance +	guide sleeve
cm3/1000 strokes : +- 8.0 +	travel mm : 2.42
+	Tolerance mm : + 0.25
Check tolerance	
cm3/1000s. : +- 14.0 +	Rated speed rpm : 1055
	guide sleeve
Spreed	travel mm : '8.93
	Tolerance mm : + 0.25
Tolerance	roter differ lish
cm3/1000 strokes : 3.5	Rated speed rpm : 810
CIID/1000 SCrokes : 3.3	
Charle delanage	guide sleeve travel mm : 6.08
Check tolerance	
cm3/1000s. : 6.0 +	Tolerance mm : + 0.25
<u> </u>	
Rated speed rpm : 900 +	Rated speed rpm : 352
	guide sleeve
+	travel mm : 3.13
Rack travel in mm: 12.30	Tolerance mm : + 0.25
Tolerance mm : $+$ 0.05	
1	Rated speed rpm : 402
Del. quantity	guide sleeve
cm3/1000 strokes : 251.0 +	travel mm : 3.98
	Tolerance mm : + 0.25
Tolerance	roter directions
cm3/1000 strokes : +- 1.0	Rated speed rpm : 510
CIID/1000 Strokes : The 1.0	
	guide sleeve
Check tolerance	travel mm : 4.42
cm3/1000s. : + 4.0 +	Tolerance mm : + 0.25
+	
Spreed +	Rated speed rpm : 1198
Tolerance +	guide sleeve
cm3/1000 strokes : 10.0	travel mm : 12.00
1	Tolerance mm : + 0.25
Check tolerance	
cm3/1000s. : 14.0	Rated speed rpm : 1290
	guide sleeve
Rated speed rpm : 350 +	travel mm : 13.50
Mateu speed i piii . 550	Tolerance mm : +- 0.50
Rack travel in mm: 5.00	roterance man
- 1	
Tolerance mm : +- U.2U +	CUIDE CLEENE COCITION
Del. quantity	GUIDE SLEEVE POSITION
cm3/1000 strokes : 50.0 +	
Tolerance +	Rated speed rpm : 1180
cm3/1000 strokes : + 3.0 +	
Check tolerance +	Rack travel in mm : 11.20
cm3/1000s. : + 6.0 +	Tolerance mm : + 2.00
Spreed :	
Tolerance +	
cm3/1000 strokes : 10.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	
cm3/1000s. : 14.0	Rated speed rpm : 900
1	Aneroid pressure
1	hPa : 1200
(B) SETTING OF INJECTION PUMP	Del. quantity
WITH GOVERNOR	cm3/1000 strokes : 251.0
MILLI GOACUIANY	Tolerance
<u> </u>	
CUIDE OF FOR TOPING	cm3/1000 strokes : +- 1.0
GUIDE SLEEVE TRAVEL	Check tolerance
<u> </u>	cm3/1000s. : +- 4.0
Rated speed rpm : 325 +	Spreed

Tolerance		+ Rated speed rpm : 400
cm3/1000 strokes	: 10.0	+ Rated speed rpm : 400 + rack travel mm : 11.25
Check tolerance		+ rack travel mm : 11.25 + Tolerance mm : + 0.15
cm3/1000s.	: 14.0	†
		ANEROID/ALTITUDE
RATED SPEED		COMPENSATOR TEST
		+
control lever		† + SETTING ↑
position degree	: 292.0	T OETTING
tolerance degree	: <b>←</b> 4.0	+ Rated speed rpm : 900
	44.00	Pressure hPa : 1200
rack travel mm	: 11.20	Pressure hPa : 1200 rack travel mm : 12.30 Tolerance mm : + 0.05
Rated speed rpm Tolerance 1/min	: 1045 • ÷ 5	Toterance im : + 0.05
rocci dilec inimiti	• •	MEASUREMENT
rack travel mm		+
Rated speed rpm Tolerance 1/min	: 1140	+ Pressure hPa : -
Tolerance 1/min	: +- 15	+ Rated speed rpm : 900
rack travel mm	: 0.50	Pressure hPa : - Rated speed rpm : 900 rack travel mm : 8.40 Tolerance mm : + 0.10
Tolerance mm	: + 0.50	-
Rated speed rpm	: 1250	Rated speed rpm : 900
		Programs 420
LOW IDLE		Pressure hPa : 170 rack travel mm : 8.75
LOW IDEL		+ rack travel mm : 8.75 + Tolerance mm : + 0.05
		+
control lever	24.0	+ Pressure hPa : 600
position degree tolerance degree		rack travel mm : 11.45 Tolerance mm : + 0.15
totel ance degree	. 1 4.0	T loterance min
Testing:		
Dutad amond one	. 750	+ START CUT-OUT
Rated speed rpm rack travel mm	• 500 • 500	T Rated speed rpm : < 290
Tolerance mm	: + 0.10	+ Check
		+ speed 1/min : < 310
Rated speed rpm	: 250	†
CRT mm min.	: > 6.50	FUEL DELIVERY CHARACTERISTICS
		<del> </del>
Rated speed rpm	: 395	+ Aneroid pressure + hPa : 1200
**************************************		+ Rated speed rpm : 1000
TORQUE CONTROL		+ Del. quantity
		+ cm3/1000 strokes : 239.0
Rated speed rpm		+ Tolerance + cm3/1000 strokes : + 3.0
rack travel mm Tolerance mm		+ Check tolerance
TO COT OFFICE TRIE	0.03	+ cm3/1000s. : + 6.0
Rated speed rpm	: 1000	+
rack travel mm	: 12.20	Aneroid pressure
Tolerance mm	: + <b>0.10</b>	+ hPa : 1200 + Rated speed rpm : 650
Rated speed rpm	: 650	+ Rated speed rpm : 650 + Del. quantity
rack travel mm		cm3/1000 strokes : 268.0
Tolerance mm		† Tolerance
		+ cm3/1000 strokes : + 3.0

Check tolerance cm3/1000s. : +- 6.0 Aneroid pressure hPa 500 Rated speed rpm Del. quantity cm3/1000 strokes : 160.0 Tolerance cm3/1000 strokes 1.0 Check tolerance cm3/1000s. 4.0 **BREAKAWAY** Rack travel in mm : 11.20 Rated speed rpm 1045 Tolerance 1/min STARTING FUEL DELIVERY 100 Rated speed rpm Del. quantity cm3/1000 strokes : 190.0 Tolerance cm3/1000 strokes 10.0 Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm 350 5.00 rack travel mm 0.20 Tolerance mm Del. quantity cm3/1000 strokes : 50.0 Tolerance 3.0 cm3/1000 strokes Check tolerance cm3/1000s. 6.0 Spreed Tolerance 10.0 cm3/1000 strokes : Check tolerance cm3/1000S. 14.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.08.95 Test oil : ISO 4113

Combination No. : 0 402 735 813

Injection pump

Pump designation : PES5P120A720/3LS7250

: -1

EP type number : 0 412 725 819

Governor

Governer design. : RQV325...1000PA960

: -9K

Governer no. : 0 421 815 309

Cust. part No. : 51.11103-7339

Customer-spec. information

Customer : MAN

Motor : D2865LF06/LU06

Power KW : 235.0

#### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp.  $^{\circ}$ C : 40 Tolerance  $^{\circ}$ C :  $\leftarrow$  2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Overflow quantity

min. L/h : 115 Tolerance L/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 600

#### **REMARKS**

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.85
Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm: 15.50 Tolerance mm: + 0.50

Firing order : 1-3-5-4-2

Phasing : 0-72-144-216-288

Tolerance : + 0.30

Check

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.50

Start of delivery blocking

Barrel no. : 5

#### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 5.00

Tolerance mm : +- 0.10

Del. quantity cm3/1000 strokes : 79.0

Tolerance + 8.0 +	guide sleeve travel mm : 2.66 Tolerance mm : +- 0.25
Check tolerance cm3/1000s. : +- 14.0	Rated speed rpm : 1058
Spreed	guide sleeve travel mm : 10.58 Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes : 3.5	Rated speed rpm : 741
Check tolerance : 8.0 +	guide sleeve travel mm : 6.99 Tolerance mm : + 0.25
Rated speed rpm : 900	Rated speed rpm : 260
Rack travel in mm: 12.30	guide sleeve travel mm : 2.01 Tolerance mm : +- 0.25
Tolerance mm : + 0.05	Rated speed rpm : 310 guide sleeve
cm3/1000 strokes : 251.0	travel mm : 2.58 Tolerance mm : + 0.25
Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 430 guide sleeve
Check tolerance cm3/1000s. : + 4.0	travel mm : 3.71 Tolerance mm : + 0.25
Spreed Tolerance cm3/1000 strokes : 10.0	Rated speed rpm : 1260 guide sleeve travel mm : 13.50 Tolerance mm : + 0.50
Check tolerance cm3/1000s. : 14.0	
Rated speed rpm : 325	GUIDE SLEEVE POSITION
Rack travel in mm: 5.00  Tolerance mm: + 0.20  Del. quantity cm3/1000 strokes: 50.0  Tolerance	Rated speed rpm : 1115  Rack travel in mm : 11.10  Tolerance mm : +- 2.00
cm3/1000 strokes : + 3.0 Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : +- 6.0 Spreed Tolerance	Rated speed rpm : 900 Aneroid pressure hPa : 1200
cm3/1000 strokes : 8.0 Check tolerance	Del. quantity cm3/1000 strokes : 251.0
cm3/1000s. : 12.0	Tolerance cm3/1000 strokes : + 1.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Check tolerance cm3/1000S. : +- 4.0 Spreed Tolerance
GUIDE SLEEVE TRAVEL	cm3/1000 strokes : 10.0 Check tolerance
Rated speed rpm : 325	cm3/1000s. : 14.0

		†
RATED SPEED		ANEROID/ALTITUDE COMPENSATOR TEST
control lever position degree tolerance degree		SETTING Rated speed rpm : 900
rack travel mm Rated speed rpm Tolerance 1/min	: 1045	Pressure hPa : 1200 rack travel mm : 12.30 Tolerance mm : + 0.05
rack travel mm Rated speed rpm Tolerance 1/min	: 1140	MEASUREMENT  Pressure hPa : - Rated speed rpm : 900
rack travel mm Tolerance mm Rated speed rpm	: <b>-</b> 0.50	rack travel mm : 8.40 Tolerance mm : + 0.10
LOW IDLE		Rated speed rpm : 900  Pressure hPa : 170  rack travel mm : 8.75
control lever position degree tolerance degree Testing:		Tolerance mm : + 0.05  Pressure hPa : 600  rack travel mm : 11.45  Tolerance mm : + 0.15
Rated speed rpm		START CUT-OUT
rack travel mm Tolerance mm	: 5.00 : +- 0.10	Rated speed rpm : < 270
		1. Chock
Rated speed rpm	: 225	+ Check + speed 1/min : < 290
CRT mm min.	: > 6.50	
	: > 6.50	speed 1/min : < 290  FUEL DELIVERY CHARACTERISTICS  Aneroid pressure
CRT mm min.	: > 6.50	speed 1/min : < 290  FUEL DELIVERY CHARACTERISTICS  Aneroid pressure hPa : 1200 Rated speed rpm : 1000 Del. quantity
CRT mm min.  Rated speed rpm  TORQUE CONTROL  Rated speed rpm rack travel mm	: > 6.50 : 305 : 900 : 12.30	speed 1/min : < 290  FUEL DELIVERY CHARACTERISTICS  Aneroid pressure hPa : 1200 Rated speed rpm : 1000 Del. quantity cm3/1000 strokes : 239.0 Tolerance
CRT mm min.  Rated speed rpm  TORQUE CONTROL  Rated speed rpm rack travel mm Tolerance mm	: > 6.50 : 305 : 900 : 12.30 : + 0.05	speed 1/min : < 290  FUEL DELIVERY CHARACTERISTICS  Aneroid pressure hPa : 1200 Rated speed rpm : 1000 Del. quantity cm3/1000 strokes : 239.0
CRT mm min.  Rated speed rpm  TORQUE CONTROL  Rated speed rpm rack travel mm	: > 6.50 : 305 : 900 : 12.30 : + 0.05	speed 1/min : < 290  FUEL DELIVERY CHARACTERISTICS  Aneroid pressure hPa : 1200 Rated speed rpm : 1000 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0  Aneroid pressure
CRT mm min.  Rated speed rpm  TORQUE CONTROL  Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm rack travel mm	: > 6.50 : 305 : 900 : 12.30 : + 0.05 : 1000 : 12.20	speed 1/min : < 290  FUEL DELIVERY CHARACTERISTICS  Aneroid pressure hPa : 1200 Rated speed rpm : 1000 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0  Aneroid pressure hPa : 1200 Rated speed rpm : 650 Del. quantity cm3/1000 strokes : 268.0
CRT mm min.  Rated speed rpm  TORQUE CONTROL  Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm rack travel mm Tolerance mm	: > 6.50 : 305 : 900 : 12.30 : + 0.05 : 1000 : 12.20 : + 0.10 : 650 : 12.10	speed 1/min : < 290  FUEL DELIVERY CHARACTERISTICS  Aneroid pressure hPa : 1200 Rated speed rpm : 1000 Del. quantity cm3/1000 strokes : 239.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0  Aneroid pressure hPa : 1200 Rated speed rpm : 650

Aneroid pressure hPa 500 Rated speed rpm Del. quantity cm3/1000 strokes : 160.0 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. 4.0 **BREAKAWAY** Rack travel in mm: 11.10 Rated speed rpm : 1045 Tolerance 1/min STARTING FUEL DELIVERY Rated speed rpm 100 Del. quantity cm3/1000 strokes : 190.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s.: +- 14.0 LOW IDLE 325 Rated speed rpm 5.00 rack travel mm Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 50.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. : +-6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0 End of test specification sheet

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.08.95 Test oil : ISO 4113

Combination No. : 0 402 735 815

Injection pump

Pump designation : PES5P120A720/3LS7310

: -1

EP type number : 0 412 725 820

Governor

Governer design. : RQ325/1000PA1106 Governer no. : D 421 801 698

Cust. part No. : 51.11103-7350

Customer—spec. information Customer : MAN

Motor : D 2865 LUH 05

Power KW : 198.0

#### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 115 Tolerance L/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.15 Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 12.80 Tolerance mm : + 0.50

Firing order : 1-3-5-4-2

Phasing : 0-72-144-216-288

Tolerance : + 0.30

Check

tolerance \*NW : +- 0.50

Start of delivery blocking

Barrel no. : 5

#### BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 11.50 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 255.0

13/1000 strokes : 255.0

Talmana	1
Tolerance cm3/1000 strokes : +- 1.0	
Check tolerance	+ guide sleeve + travel mm : 7.00
cm3/1000s. : +- 4.0	
Spreed	Rated speed rpm : 1210
Tolerance	guide sleeve
cm3/1000 strokes : 5.0	
	+ Tolerance mm : + 0.50
Check tolerance	+
cm3/1000s. : 9.0	0 +
	+ GUIDE SLEEVE POSITION
Rated speed rpm : 325	†
	+ Rated speed rpm : 700
Rack travel in mm: 4.80	
Tolerance mm : + 0.20	· · · · · · · · · · · · · · · · · · ·
Del. quantity cm3/1000 strokes : 37.0	† Tolerance mm : + 0.80
Tolerance : 37.0	' I
cm3/1000 strokes : +- 3.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	TOLL LOAD DELIVERY AT THE COAD OTGS
cm3/1000s. : +- 6.0	Rated speed rpm : 550
Spreed	+ Aneroid pressure
Tolerance	hPa : 900
cm3/1000 strokes : 8.0	
Check tolerance	+ cm3/1000 strokes : 255.0
cm3/1000s. : 12.0	
	+ cm3/1000 strokes : +- 1.0 + Check tolerance
(D) SETTING OF THIECTION DIE	
(B) SETTING OF INJECTION PUR	+ cm3/1000s. : + 4.0
(B) SETTING OF INJECTION PUN WITH GOVERNOR	1P + cm3/1000S. : + 4.0 + Spreed
	+ cm3/1000s. : + 4.0
	mp cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
GUIDE SLEEVE TRAVEL	mg/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0
GUIDE SLEEVE TRAVEL Rated speed rpm : 325	mp cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 325 guide sleeve	my cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 325 guide sleeve travel mm : 2.49	mail
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 325 guide sleeve	mail
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 325 guide steeve travel mm : 2.49 Tolerance mm : +- 0.10	mail cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 325 guide steeve travel mm : 2.49 Tolerance mm : + 0.10  Rated speed rpm : 1059	mail cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 325 guide steeve travel mm : 2.49 Tolerance mm : + 0.10  Rated speed rpm : 1059 guide steeve	mail com3/1000s. : + 4.0  Spreed  Tolerance  cm3/1000 strokes : 5.0  Check tolerance  cm3/1000s. : 9.0  RATED SPEED  control lever  position degree : 103.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 325 guide sleeve travel mm : 2.49 Tolerance mm : + 0.10  Rated speed rpm : 1059	cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 103.0 tolerance degree : +- 4.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 325 guide sleeve travel mm : 2.49 Tolerance mm : + 0.10  Rated speed rpm : 1059 guide sleeve travel mm : 7.34 Tolerance mm : + 0.10	cm3/1000s. : + 4.0  Spreed  Tolerance  cm3/1000 strokes : 5.0  Check tolerance  cm3/1000s. : 9.0  RATED SPEED   control lever  position degree : 103.0  tolerance degree : + 4.0  rack travel mm : 12.00
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 325 guide sleeve travel mm : 2.49 Tolerance mm : + 0.10  Rated speed rpm : 1059 guide sleeve travel mm : 7.34 Tolerance mm : + 0.10  Rated speed rpm : 1000	mail cm3/1000s. : + 4.0  Spreed  Tolerance  cm3/1000 strokes : 5.0  Check tolerance  cm3/1000s. : 9.0  RATED SPEED   control lever  position degree : 103.0  tolerance degree : + 4.0  rack travel mm : 12.00  Rated speed rpm : 1053
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 325 guide sleeve travel mm : 2.49 Tolerance mm : + 0.10  Rated speed rpm : 1059 guide sleeve travel mm : 7.34 Tolerance mm : + 0.10  Rated speed rpm : 1000 guide sleeve	mail of the control lever position degree : +- 4.0  control lever position degree : +- 4.0  rack travel mm : 12.00  Rated speed rpm : 1053  Tolerance 1/min : +- 8
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 325 guide sleeve travel mm : 2.49 Tolerance mm : + 0.10  Rated speed rpm : 1059 guide sleeve travel mm : 7.34 Tolerance mm : + 0.10  Rated speed rpm : 1000 guide sleeve travel mm : 7.01	mail of the speed
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 325 guide sleeve travel mm : 2.49 Tolerance mm : + 0.10  Rated speed rpm : 1059 guide sleeve travel mm : 7.34 Tolerance mm : + 0.10  Rated speed rpm : 1000 guide sleeve	Cm3/1000s. : + 4.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 325 guide sleeve travel mm : 2.49 Tolerance mm : + 0.10  Rated speed rpm : 1059 guide sleeve travel mm : 7.34 Tolerance mm : + 0.10  Rated speed rpm : 1000 guide sleeve travel mm : 7.01 Tolerance mm : + 0.10	Cm3/1000s. : + 4.0   Spreed   Tolerance   cm3/1000 strokes : 5.0   Check tolerance   cm3/1000s. : 9.0     RATED SPEED
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 325 guide sleeve travel mm : 2.49 Tolerance mm : + 0.10  Rated speed rpm : 1059 guide sleeve travel mm : 7.34 Tolerance mm : + 0.10  Rated speed rpm : 1000 guide sleeve travel mm : 7.01  Rated speed rpm : 7.01 Tolerance mm : + 0.10	Cm3/1000s. : + 4.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 325 guide sleeve travel mm : 2.49 Tolerance mm : + 0.10  Rated speed rpm : 1059 guide sleeve travel mm : 7.34 Tolerance mm : + 0.10  Rated speed rpm : 1000 guide sleeve travel mm : 7.01  Rated speed rpm : 7.01  Rated speed rpm : 7.01  Rated speed rpm : 7.01  Rated speed rpm : 7.01  Rated speed rpm : 7.77 guide sleeve	Cm3/1000s. : + 4.0     Spreed     Tolerance     cm3/1000 strokes : 5.0     Check tolerance     cm3/1000s. : 9.0     RATED SPEED     control lever     position degree : 103.0     tolerance degree : + 4.0     rack travel mm : 12.00     Rated speed rpm : 1053     Tolerance 1/min : + 8     rack travel mm : 4.00     Rated speed rpm : 1130     Tolerance 1/min : + 15
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 325 guide sleeve travel mm : 2.49 Tolerance mm : + 0.10  Rated speed rpm : 1059 guide sleeve travel mm : 7.34 Tolerance mm : + 0.10  Rated speed rpm : 1000 guide sleeve travel mm : 7.01  Rated speed rpm : 7.01  Rated speed rpm : 7.01  Rated speed rpm : 7.01  Rated speed rpm : 7.01  Rated speed rpm : 7.01  Rated speed rpm : 7.01	Cm3/1000s. : + 4.0   Spreed   Tolerance   cm3/1000 strokes : 5.0   Check tolerance   cm3/1000s. : 9.0   RATED SPEED     Control lever   position degree : 103.0   tolerance degree : + 4.0     tolerance degree : + 4.0     Tolerance 1/min : + 8     Tolerance 1/min : + 15
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 325 guide steeve travel mm : 2.49 Tolerance mm : + 0.10  Rated speed rpm : 1059 guide steeve travel mm : 7.34 Tolerance mm : + 0.10  Rated speed rpm : 1000 guide steeve travel mm : 7.01  Rated speed rpm : 7.01 Tolerance mm : + 0.10  Rated speed rpm : 7.01 Tolerance mm : + 0.10	Cm3/1000s. : + 4.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 325 guide sleeve travel mm : 2.49 Tolerance mm : + 0.10  Rated speed rpm : 1059 guide sleeve travel mm : 7.34 Tolerance mm : + 0.10  Rated speed rpm : 1000 guide sleeve travel mm : 7.01  Rated speed rpm : 7.01  Rated speed rpm : 7.01  Rated speed rpm : 7.01  Tolerance mm : + 0.10  Rated speed rpm : 7.01  Tolerance mm : 7.01  Tolerance mm : 7.01  Tolerance mm : 7.01	Cm3/1000s. : + 4.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 325 guide sleeve travel mm : 2.49 Tolerance mm : + 0.10  Rated speed rpm : 1059 guide sleeve travel mm : 7.34 Tolerance mm : + 0.10  Rated speed rpm : 1000 guide sleeve travel mm : 7.01  Rated speed rpm : 7.01 Tolerance mm : + 0.10  Rated speed rpm : 7.77 guide sleeve travel mm : 7.01 Tolerance mm : + 0.10  Rated speed rpm : 7.01 Tolerance mm : 7.01 Tolerance mm : 7.01 Rated speed rpm : 399 guide sleeve	Cm3/1000s. : + 4.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 325 guide sleeve travel mm : 2.49 Tolerance mm : + 0.10  Rated speed rpm : 1059 guide sleeve travel mm : 7.34 Tolerance mm : + 0.10  Rated speed rpm : 1000 guide sleeve travel mm : 7.01 Tolerance mm : 7.01  Rated speed rpm : 7.01 Tolerance mm : + 0.10  Rated speed rpm : 7.77 guide sleeve travel mm : 7.01 Tolerance mm : + 0.10  Rated speed rpm : 7.01 Tolerance mm : + 0.10	Cm3/1000S. : + 4.0

		1	rack travel mm	: 10.95
control lever position degree	• 73.0	<u> </u>	Tolerance mm	
tolerance degree	: +- 4.0	+	Pressure hPa	: 1100
Testing:		‡	rack travel mm Tolerance mm	: 1100 : 11.90 : + 0.10
Rated speed rpm	: 325	+	Pressure hPa	
rack travel mm Tolerance mm		‡	rack travel mm Tolerance mm	
rack travel mm	: 2.00	†		
Rated speed rpm	: 390	Ţ		<del></del>
Tolerance 1/min	: +- 20	1	FUEL DELIVERY CHA	RACTERISTICS
Rated speed rpm	: 200	+	Aneroid pressure hPa	: 2000
CRT mm อาก.	: > 6.50	Ţ	Rated speed rpm	
			Del. quantity cm3/1000 strokes	
TORQUE CONTROL		<u> </u>	Tolerance	
Rated speed rpm	: 550	<u> </u>	cm3/1000 strokes Check tolerance	: +- 3.0
rack travel mm	: 11.50	Ŧ	cm3/1000s.	: +- 6.0
Tolerance mm	: ← 0.05	1	Aneroid pressure	
Rated speed rpm	: 1000	+	hPa	: 2000
rack travel mm Tolerance mm	: 13.00 : ← 0.10	1	Rated speed rpm Del. quantity	: 750
		+	cm3/1000 strokes	: 286.0
Rated speed rpm rack travel mm		<u> </u>	Tolerance cm3/1000 strokes	: +- 2.0
Tolerance mm		+	Check tolerance	
		<del> </del>	cm3/1000s.	: +- 5.0
ANEROID/ALTITUDE COMPENSATOR TEST		+	Aneroid pressure hPa	•
COMPENSATOR 1831		Į	Rated speed rpm	: 500
SETTING		1	Del. quantity cm3/1000 strokes	: 169.0
		Ŧ	Tolerance	
Rated speed rpm Pressure hPa	: 500 : 2000	1	cm3/1000 strokes Check tolerance	: +- 1.0
rack travel mm	: 13.00	+	cm3/1000s.	: <b>←</b> 4.0
Tolerance mm	: <b>←</b> 0.05	‡		· · · · · · · · · · · · · · · · · · ·
MEASUREMENT		‡	BREAKAWAY	
Pressure hPa	: -	+	Dools Assessed the sec	** OD
Rated speed rpm rack travel mm	: 500 : 8.90	1	Rack travel in mm Rated speed rpm	
Tolerance mm		1	Tolerance 1/min	: + 8
Rated speed rpm	: 500	<u> </u>		
Pressure hPa		Į	STARTING FUEL DEL	IVERY
rack travel mm Tolerance mm	: 9.20 : + 0.15	1	Rated speed rpm	: 100
		Ŧ	rack travel mm	: 8.90
Pressure hPa	: 600	+	Tolerance mm	: ← 0.20

Del. quantity cm3/1000 strokes	:	95.0
Tolerance cm3/1000 strokes Check tolerance	: +-	10.0

cm3/1000S. : + 14.0

# LOW IDLE

Rated speed rpm	:	325
rack travel mm	:	4.80
Tolerance mm	: +	-0.20
Del. quantity		
cm3/1000 strokes	:	37.0
Tolerance		
cm3/1000 strokes	: +	- 3.0
Check tolerance		
cm3/1000s.	: +	- 6.0
Spreed		
Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance		
cm3/1000s.	:	12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.08.95 Test oil : ISO 4113

Combination No. : 0 402 735 817

Injection pump

Pump designation : PES5P120A720/3LS7310

: -1

EP type number : 0 412 725 820

Governor

Governer design. : RQ325/1000PA1229 Governer no. : 0 421 801 786

Cust. part No. : 51.11103-7409

Customer-spec. information

Customer : MAN

Motor : D2865LUHO5/MANAS

Power KW : 198.0

#### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. l/h : 115 Tolerance l/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.15
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 12.80 Tolerance mm : + 0.50

Firing order : 1-3-5-4-2

Phasing : 0-72-144-216-288

Tolerance : + 0.30

Check

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.50

Start of delivery blocking

Barrel no. : 5

#### BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 11.50
Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 255.0

Tolerance

cm3/1000 strokes : + 1.0

	+ guide sleeve
Check tolerance	† travel mm : 7.00
cm3/1000s. : +- 4.0	Tolerance mm : +- 0.10
Spreed	Rated speed rpm : 1210
Tolerance	guide sleeve
cm3/1000 strokes : 5.0	travel mm : 11.50
CIID/ 1000 Strokes . J.a	Tolerance mm : + 0.50
Check tolerance	T roterance in . T 0.30
	T Rated speed rpm : 803
cm3/1000s. : 9.0	
Dubud	guide sleeve
Rated speed rpm : 325	travel mm : 7.23
	Tolerance mm : + 0.10
Rack travel in mm: 4.90	†
Tolerance mm : + 0.20	
Del. quentity	+ GUIDE SLEEVE POSITION
cm3/1000 strokes : 37.0	†
Tolerance	Rated speed rpm : 700
cm3/1000 strokes : +- 3.0	+
Check tolerance	Rack travel in mm: 15.50
cm3/1000s. : + 6.0	† Tolerance mm : + 0.80
Spreed	<del>}</del>
Tolerance	<del></del>
cm3/1000 strokes : 8.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	+
cm3/1000s. : 12.0	Rated speed rpm : 550
	Aneroid pressure
	hPa : 900
(B) SETTING OF INJECTION PUMP	Del. quantity
WITH GOVERNOR	cm3/1000 strokes : 255.0
#111 GOVERNOR	Tolerance
	cm3/1000 strokes : + 1.0
GUIDE SLEEVE TRAVEL	Check tolerance
GOIDE SECENT TRAVEL	- cm3/1000s. : + 4.0
Rated speed rpm : 325	Spreed
guide sleeve	Tolerance
travel mm : 2.68	cm3/1000 strokes : 5.0
	Check tolerance
Tolerance mm : $\leftarrow$ 0.10	- cm3/1000s. : 9.0
Oated annual commun. 1040	† (m)/10003 9.0
Rated speed rpm : 1060	T
guide sleeve -	DATES OFFICE
travel mm : 7.61	RATED SPEED
Tolerance mm : + 0.10	
2000	
Rated speed rpm : 1000 -	control lever
guide sleeve -	position degree : 282.0
travel mm : 7.30 -	tolerance degree : +- 4.0
Tolerance mm : +- 0.10	10.00
	rack travel mm : 12.00
Rated speed rpm : 769	Rated speed rpm : 1053
guide sleeve	Tolerance 1/min : + 8
travel mm : 7.08	
Tolerance mm : +- 0.10	rack travel mm : 4.00
<del>-</del>	Rated speed rpm : 1130
Rated speed rpm : 399	Tolerance 1/min : + 15
guide sleeve	<del> </del>
travel mm : 4.42	rack travel mm : 0.50
Tolerance mm : + 0.10	Tolerance mm : + 0.50
4	Rated speed rpm : 1250
Rated speed rpm : 530	<b>}</b>

		+	rack travel mm	: 9.20
LALL TRUE		<del></del> +	Tolerance mm	
LOW IDLE		‡	Pressure hPa rack travel mm	: 600 : 10.95 : + 0.15
control lever position degree tolerance degree	: 253.0 : + 4.0	‡	Tolerance mm  Pressure hPa	
Testing:		+	rack travel mm Tolerance mm	: 11.90
Rated speed rpm rack travel mm Tolerance mm	: 325 : 4.90 : ← 0.10	† †	Pressure hPa rack travel mm Tolerance mm	
rack travel mm Rated speed rpm Tolerance 1/min	: 390	. ‡	FUEL DELIVERY CHA	DACTEDICTICS
Toterance Timin		Ŧ		KACIEKISIICS
Rated speed rpm		‡	Aneroid pressure hPa Rated speed rpm Del. quantity	: 2000 : 750
TORQUE CONTROL		+	cm3/1000 strokes Tolerance cm3/1000 strokes	
Rated speed rpm rack travel mm Tolerance mm	: 11.50	† † †	Check tolerance cm3/1000s.	: + 5.0
Rated speed rpm rack travel mm Folerance mm	: 750 : 13.00	‡	Aneroid pressure hPa Rated speed rpm Del. quantity	
Rated speed rpm rack travel mm	: 13.00	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes	
Tolerance mm	: +- 0.10	<b>†</b>	Check tolerance cm3/1000s.	: +- 6.0
ANEROID/ALTITUDE COMPENSATOR TEST			Aneroid pressure hPa Rated speed rpm	: - : 500
SETTING		<u> </u>	Del. quantity cm3/1000 strokes Tolerance	: 169.0
Rated speed rpm Pressure hPa rack travel mm	: 500 : 2000 : 13.00	‡	cm3/1000 strokes Check tolerance cm3/1000s.	: + 1.0 : + 4.0
Tolerance mm	: +- 0.05	Ī	CIID7 10003.	. 1- 4.0
MEASUREMENT		Ī	BREAKAWAY	
Pressure hPa Rated speed rpm rack travel mm Folerance mm	: - : 500 : 8.90 : + 0.15	+++++++++++++++++++++++++++++++++++++++	Rack travel in mm Rated speed rpm Tolerance 1/min	: 1053
Rated speed rpm	: 500	‡		
Pressure hPa	: 250	‡	STARTING FUEL DEL	IVERY

Rated speed rpm	:	100
rack travel mm	:	8.90
Tolerance mm	: +-	0.20
Del. quantity		
cm3/1000 strokes	:	95.0
Tolerance		
cm3/1000 strokes	: +-	10.0
Check tolerance		
cm3/1000s.	: +-	14.0

## LOW IDLE

Rated speed rpm			325
	•		
rack travel mm	:		4.90
Tolerance mm	:	+	0.20
Del. quantity			
cm3/1000 strokes	;		37.0
Tolerance			
cm3/1000 strokes	:	+	3.0
Check tolerance			
cm3/1000s.	:	+-	6.0
Spreed			
Tolerance			
cm3/1000 strokes	:		8.0
Check tolerance			
cm3/1000s.	:		12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.08.95 Test oil : ISO 4113

Combination No. : 0 402 735 818

Injection pump

Pump designation : PES5P120A720/3LS7310

: -1

EP type number : 0 412 725 820

Governor

Governer design. : RQ325/1000PA1228 Governer no. : 0 421 801 789

Cust. part No. : 51.11103-7337

Customer-spec. information

Customer : MAN

Motor : D 2865 LOH 05

Power KW : 198.0

#### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 115 Tolerance L/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.15
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 12.80 Tolerance mm : + 0.50

Firing order : 1-3-5-4-2

Phasing : 0-72-144-216-288

Tolerance :  $\leftarrow$  0.30

Check

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.50

Start of delivery blocking

Barrel no. : 5

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 11.50 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 255.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

	+ guide sleeve
Check tolerance	+ travel mm : 7.00
cm3/1000s. : +- 4.0	Tolerance mm : + 0.10
Spreed	Rated speed rpm : 1210
Tolerance	+ guide sleeve
cm3/1000 strokes : 5.0	+ travel mm : 11.50
UND 1000 001 0000	+ Tolerance mm : + 0.50
Check tolerance	1
cm3/1000s. : 9.0	Rated speed rpm : 804
1 1000	+ guide sleeve
Rated speed rpm : 325	travel mm : 7.23
Nated Speed Pair . SES	+ Tolerance mm : + 0.10
Rack travel in mm : 4.90	Total and the
Tolerance mm : + 0.20	
Del. quantity	→ GUIDE SLEEVE POSITION
cm3/1000 strokes : 37.0	1 00105 055545 100111014
Tolerance	Rated speed rpm : 700
cm3/1000 strokes : + 3.0	I nated speed i pin . 100
Check tolerance	Rack travel in mm: 15.50
cm3/1000s. : +- 6.0	+ Tolerance mm : + 0.80
Spreed	T loterance man . T 0.00
Tolerance	Τ
cm3/1000 strokes : 8.0	FULL LOAD DELIVERY AT FULL LOAD STOP
	T FOLL LUAD DELIVERY AT FULL LUAD STOP
Check tolerance	+ Rated speed rpm : 550
cm3/1000s. : 12.0	
	Aneroid pressure
(D) OFFITAIO OF TALIFOTTOM NUMB	+ hPa : 950
(B) SETTING OF INJECTION PUMP	+ Del. quantity
WITH GOVERNOR	+ cm3/1000 strokes : 255.0
	+ Tolerance
	+ cm3/1000 strokes : + 1.0
GUIDE SLEEVE TRAVEL	+ Check tolerance
- · · ·	+ cm3/1000s. : +- 4.0
Rated speed rpm : 325	+ Spreed
guide sleeve	+ Tolerance
travel mm : 2.68	+ cm3/1000 strokes : 5.0
Tolerance mm : + 0.10	+ Check tolerance
	+ cm3/1000s. : 9.0
Rated speed rpm : 1060	†
guide sleeve	
travel mm : 7.62	+ RATED SPEED
Tolerance mm : + 0.10	†
4000	†
Rated speed rpm : 1000	+ control lever
guide sleeve	position degree : 281.0
travel mm : 7.30	+ tolerance degree : + 4.0
Tolerance mm : + 0.10	<b>†</b>
	+ rack travel mm : 11.70
Rated speed rpm : 771	+ Rated speed rpm : 1053
guide sleeve	+ Tolerance 1/min : + 8
travel mm : 7.08	†
Tolerance mm : +- 0.10	+ rack travel mm : 4.00
	+ Rated speed rpm : 1130
Rated speed rpm : 400	+ Tolerance 1/min : + 15
guide sleeve	+
travel mm : 4.41	+ rack travel mm : 0.50
Tolerance mm : + 0.10	+ Tolerance mm : + 0.50
	Rated speed rpm : 1250
Rated speed rpm : 530	· ·

		+ rack travel mm : 9.20
) OH TOLE		
FOM IDTE		Pressure hPa : 600 rack travel mm : 10.95
control lever position degree		+ Tolerance mm : +- 0.15
tolerance degree	: +- 4.0	+ Pressure hPa : 1200 + rack travel mm : 11.90
Testing:		+ Tolerance mm : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 325 : 4.90 : +- 0.10	Pressure hPa : 1400 rack travel mm : 12.60 Tolerance mm : +- 0.15
rack travel mm Rated speed rpm	: 2.00	. ‡
Tolerance 1/min		FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 200	Aneroid pressure hPa : 2000
CRT mm min.	: > 6.60	Rated speed rpm : 750 Del. quantity
TORQUE CONTROL		
Rated speed rpm	: 550	cm3/1000 strokes : +- 2.0 Check tolerance
rack travel mm Tolerance mm		+ cm3/1000s. : + 5.0
Rated speed rpm	: 750	+ Aneroid pressure + hPa : 2000
rack travel mm Tolerance mm	: 13.00	Rated speed rpm : 1000 Del. quantity
Rated speed rpm		cm3/1000 strokes : 257.0 Tolerance
rack travel mm Tolerance mm	: 12.70 : + 0.10	- cm3/1000 strokes : + 3.0 - Check tolerance
		+ cm3/1090s. : + 6.0
ANEROID/ALTITUDE		Aneroid pressure
COMPENSATOR TEST		Rated speed rpm : 500  Del. quantity
SETTING		cm3/1000 strokes : 169.0  Tolerance
Rated speed rpm Pressure hPa	: 500 : 2000	cm3/1000 strokes : + 1.0 Check tolerance
rack travel mm Tolerance mm	: 13.00 : - 0.05	cm3/1000s. : + 4.0
MEASUREMENT		BREAKAWAY
Pressure hPa	: -	Pools troval in my a 11 70
Rated speed rpm rack travel mm Tolerance mm	: 500 : 8.90 : + 0.15	+ Rack travel in mm : 11.70 + Rated speed rpm : 1053 + Tolerance 1/min : +- 8
Rated speed rpm	: 500	‡
Pressure hPa	: 250	STARTING FUEL DELIVERY

Rated speed rpm rack travel mm Tolerance mm	: : +-	100 8.90 0.20
Del. quantity cm3/1000 strokes Tolerance	:	95.0
cm3/1000 strokes Check tolerance	: +-	10.0
cm3/1000s.	: +-	14.0

# LOW IDLE

Rated speed rpm	:		325
rack travel mm	:		4.90
Tolerance mm	:	+-	0.20
Del. quantity			
cm3/1000 strokes	:		37.0
Tolerance			
cm3/1000 strokes	:	+-	3.0
Check tolerance			
cm3/1000s.	:	+-	6.0
Spreed			
Tolerance			
cm3/1000 strokes	:		8.0
Check tolerance			
cm3/1000s.	:		12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.07.95 Test oil : ISO 4113

Combination No. : 0 402 736 859

Injection pump

Pump designation : PES6P12OA12ORS7261 EP type number : 0 412 726 876

Governor

Governer design. : RQV350...1100PA924

: -10K

Governer no. : 0 421 815 429

Cust. part No. : 3282465

Customer—spec. information
Customer : CUMMINS
Motor : 6CTAA
Power KW : 176.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C :  $\leftarrow$  2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

#### BEGINNING OF DELIVERY

Test pressure bar : 18.0 Tolerance bar : + 1.0

Prestroke mm : 3.55Tolerance mm :  $\div$  0.05

test only :  $\leftarrow$  0.10

Rack travel in mm: 10.50 Tolerance mm: + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance  $^{\circ}NW$  : +- 0.50

Start of delivery blocking

\*NW after s.o.d. : 7.00

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 10.85
Tolerance mm: + 0.05

Del. quantity

cm3/1000 strokes : 145.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

	1		
Check tolerance cm3/1000s.	: + 4.0	control lever position degree	: 113.0
Spreed	+	tolerance degree	: <del>←</del> 4.0
Tolerance			
cm3/1000 strokes	: 5.0	rack travel mm	: 9.80
	<del></del>	Rated speed rpm	: 1145
Check tolerance	†	Tolerance 1/min	: +- 5
cm3/1000s.	: 9.0		/ 00
<b>~ .</b>	750	rack travel mm	: 4.00
Rated speed rpm	: 350 +	Rated speed rpm	: 1255
Dark Americal decimal	. 510	Tolerance 1/min	: +- 15
Rack travel in mm			. 0.50
Tolerance mm	: + 0.30	rack travel mm	: 0.50
Del. quantity	7.0	Tolerance mm	: + 0.50
cm3/1000 strokes	: 26.0	Rated speed rpm	: 1350
Tolerance			
cm3/1000 strokes	: <b>←</b> 3.0 <b>+</b>	LOW IDLE	
Check tolerance cm3/1000s.	: + 5.0	FOM INCE	
	: +- 3.0		
Spreed Tolerance	<b>†</b>	control lever	
cm3/1000 strokes	: 7.0 I	position degree	: 68.0
Check tolerance	· /.0	tolerance degree	
cm3/1000s.	: 11.0 I	toterance degree	4.0
CIID7 10003.	· 11.0	Testing:	
	I	restrig.	
(B) SETTING OF INJ	IECTION DIMP	Rated speed rpm	: 350
WITH GOVERNOR	1	rack travel mm	: 5.10
MIIII GOAFWAOW	$\mathbf{I}$	Tolerance mm	: +- 0.10
	$\mathbf{I}$	rocerance har	0.10
	<del></del>	Rated speed rpm	: 250
GUIDE SLEEVE POSIT	TION +		
	+	CRT mm min.	: > 6.60
Rated speed rpm	: 1400 +		
	<del>+</del>	Rated speed rpm	: 400
Rack travel in mm	I		
Tolerance mm	: ← 3.00 +		
	†	TORQUE CONTROL	•
FIRE LOSS SELECTION	AT THE LOAD STOP	Dobod amoust	
LOTT FOND DEFTACEL	AT FULL LOAD STOP		. 111111
	}	Rated speed rpm	: 1100
Datad apad nom	. 1100	rack travel mm	: 10.85
Rated speed rpm	: 1100		
Aneroid pressure	<del>}</del>	rack travel mm Tolerance mm	: 10.85 : + 0.05
Aneroid pressure hPa	: 1100 : 900	rack travel mm Tolerance mm Rated speed rpm	: 10.85 : + 0.05 : 700
Aneroid pressure hPa Del. quantity	: 900	rack travel mm Tolerance mm Rated speed rpm rack travel mm	: 10.85 : + 0.05 : 700 : 10.00
Aneroid pressure hPa Del. quantity cm3/1000 strokes	: 900	rack travel mm Tolerance mm Rated speed rpm	: 10.85 : + 0.05 : 700
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	: 900 : 145.0	rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 10.85 : + 0.05 : 700 : 10.00 : + 0.10
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 900	rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 10.85 : + 0.05 : 700 : 10.00 : + 0.10 : 900
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 900 : 145.0 : + 1.0	rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm	: 10.85 : + 0.05 : 700 : 10.00 : + 0.10 : 900 : 10.35
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 900 : 145.0	rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 10.85 : + 0.05 : 700 : 10.00 : + 0.10 : 900
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 900 : 145.0 : + 1.0	rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 10.85 : + 0.05 : 700 : 10.00 : + 0.10 : 900 : 10.35 : + 0.15
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 900 : 145.0 : ← 1.0 : ← 4.0	rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: + 10.85 : + 0.05 : 700 : 10.00 : + 0.10 : 900 : 10.35 : + 0.15 : 400
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Spreed Tolerance cm3/1000 strokes	: 900 : 145.0 : + 1.0	rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Poted speed rpm rack travel mm	: + 10.85 : + 0.05 : 700 : 10.00 : + 0.10 : 900 : 10.35 : + 0.15 : 400 : 9.15
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 900 : 145.0 : ← 1.0 : ← 4.0 : 5.0	rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 10.85 : + 0.05 : 700 : 10.00 : + 0.10 : 900 : 10.35 : + 0.15 : 400 : 9.15
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: 900 : 145.0 : ← 1.0 : ← 4.0	rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Poted speed rpm rack travel mm	: 10.85 : + 0.05 : 700 : 10.00 : + 0.10 : 900 : 10.35 : + 0.15 : 400 : 9.15
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 900 : 145.0 : ← 1.0 : ← 4.0 : 5.0	rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Poted speed rpm rack travel mm	: 10.85 : + 0.05 : 700 : 10.00 : + 0.10 : 900 : 10.35 : + 0.15 : 400 : 9.15
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 900 : 145.0 : ← 1.0 : ← 4.0 : 5.0	rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Poted speed rpm rack travel mm	: 10.85 : + 0.05 : 700 : 10.00 : + 0.10 : 900 : 10.35 : + 0.15 : 400 : 9.15

ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1100 : 900 : 10.85 : ← 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 1100 : 7.70 : + 0.10
Rated speed rpm	: 1100
Pressure hPa rack travel mm Tolerance mm	: 320 : 8.50 : ← 0.20
Pressure hPa rack travel mm Tolerance mm	: 560 : 10.25 : + 0.05
START CUT-OUT	
START CUT-OUT  Rated speed rpm Check speed 1/min	: < 270 : < 290
Rated speed rpm Check	: < 290
Rated speed rpm Check speed 1/min  FUEL DELIVERY CHA Aneroid pressure	: < 290 ARACTERISTICS
Rated speed rpm Check speed 1/min  FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm	: < 290
Rated speed rpm Check speed 1/min  FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: < 290  RACTERISTICS  : 900
Rated speed rpm Check speed 1/min  FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: < 290  RACTERISTICS  : 900 : 700
Rated speed rpm Check speed 1/min  FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: < 290  ARACTERISTICS  : 900 : 700 : 150.0
Rated speed rpm Check speed 1/min  FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: < 290  RACTERISTICS  : 900 : 700 : 150.0 : +- 3.0 : +- 6.0
Rated speed rpm Check speed 1/min  FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: < 290  RACTERISTICS  : 900 : 700 : 150.0 : + 3.0 : + 6.0 : 8.0
Rated speed rpm Check speed 1/min  FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: < 290  RACTERISTICS  : 900 : 700 : 150.0 : +- 3.0 : +- 6.0
Rated speed rpm Check speed 1/min  FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: < 290  RACTERISTICS  : 900 : 700 : 150.0 : + 3.0 : + 6.0 : 8.0

: +- 2.0 : +- 4.0
9.80 : 1145 : +- 5
IVERY
: 100
: 265.0
: +- 15.0
: +- 19.0
: 350
: 5.10 : + 0.30
: 26.0
. 20.0
: <del>+</del> 3.0
: +- 5.0
<b></b> .
: 7.0
: 11.0
fication sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.07.95 Test oil : ISO 4113

Combination No. : 0 402 736 861

Injection pump

Pump designation : FES6P120A120RS7261

EP type number : 0 412 726 876

Governor

Governer design. : RQV350...1100PA924

: -11K

Governer no. : 0 421 815 431

Cust. part No. : 3282468

Customer—spec. information
Customer : CUMMINS
Motor : 6CTAA
Power KW : 202.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 18.0 Tolerance bar : + 1.0

Prestroke mm : 3.55
Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance \*NW : + 0.50

Start of delivery blocking

\*NW after s.o.d. : 7.00

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.05 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 166.0

Tolerance

cm3/1000 strokes : + 1.0

+	tolerance degree : +- 4.0
Check tolerance cm3/1000s. : + 4.0	control lever
Spreed	position degree : 115.0 tolerance degree : +- 4.0
Tolerance cm3/1000 strokes : 5.0	rack travel mm : 11.00 Rated speed rpm : 1145
Check tolerance cm3/1000s. : 9.0	Tolerance 1/min : +- 5
†	rack travel mm : 4.00
Del. quantity + cm3/1000 strokes : 26.0 + Tolerance + -	Rated speed rpm : 1275 Tolerance 1/min : +- 15
cm3/1000 strokes : + 3.0 + Check tolerance	rack travel mm : 0.50 Tolerance mm : +- 0.50
cm3/1000s. : + 5.0 + 5.0	Rated speed rpm : 1350
Tolerance + cm3/1000 strokes : 7.0 + Check tolerance +	LOW IDLE
cm3/1000s. : 11.0	
1	control lever position degree : 70.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	tolerance degree : + 4.0
+	control lever
<del>†</del>	position degree : 17.0
GUIDE SLEEVE POSITION +	tolerance degree : +- 4.0
GOIDE SPEEKE LOSILION	Testing:
Rated speed rpm : 1400 +	
+	Rated speed rpm : 350
Rack travel in mm: 9.00	rack travel mm : 4.90 Tolerance mm : +- 0.10
Tolerance mm : + 3.00 +	Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 250
+	CRT mm min. : > 6.30
Rated speed rpm : 1100 + Aneroid pressure +	Rated speed rpm : 400
hPa : 1200	Nated Speed (pill : 400
Del. quantity +	
cm3/1000 strokes : 166.0 +	TORQUE CONTROL
Tolerance + cm3/1000 strokes : + 1.0 +	Rated speed rpm : 1100
Check tolerance	rack travel mm : 12.05
cm3/1000s. : + 4.0 +	Tolerance mm : + 0.05
Spreed +	
Tolerance + cm3/1000 strokes : 5.0 +	Rated speed rpm : 700
cm3/1000 strokes : 5.0 + Check tolerance	rack travel mm : 11.30 Tolerance mm : + 0.10
cm3/1000s. : 9.0 +	Occidince man
+	Rated speed rpm : 900
	rack travel mm : 11.55
RATED SPEED ±	Tolerance mm : + 0.15
I	Rated speed rpm : 500
control lever	rack travel mm : 10.55
position degree : 57.0	Tolerance mm : +- 0.15

: 1100 : 1200 : 12.05 : + 0.05
: 1100 : 7.60 : ← 0.10
: 1100
: 320 : 8.30 : + 0.20
: 700 : 11.15 : + 0.05
: < 270 : < 290
-
: < 290  ARACTERISTICS  : 1200
: < 290 ARACTERISTICS
: < 290  ARACTERISTICS  : 1200 : 700
: < 290  ARACTERISTICS  : 1200 : 700 : 180.0
: < 290  ARACTERISTICS  : 1200 : 700 : 180.0 : ← 3.0
: < 290  ARACTERISTICS  : 1200 : 700 : 180.0 : + 3.0 : + 6.0
: < 290  ARACTERISTICS  : 1200 : 700 : 180.0 : + 3.0 : + 6.0 : 8.0 : 12.0
: < 290  ARACTERISTICS  : 1200 : 700 : 180.0 : + 3.0 : + 6.0 : 8.0

Tolerance	
cm3/1000 strokes Check tolerance	: +- 2.0
cm3/1000s.	: +- 4.0
BREAKAWAY	
Rack travel in mm	: 11.00
Rated speed rpm Tolerance 1/min	: 1145 : +- 5
STARTING FUEL DEL	IVERY
Rated speed rpm Del. quantity	: 100
cm3/1009 strokes	: 265.0
Tolerance cm3/1000 strokes	: <del>+-</del> 15.0
Check tolerance cm3/1000s.	: +- 19.0
LOW IDLE	
Del. quantity cm3/1000 strokes	: 26.0
Tolerance cm3/1000 strokes	: ← 3.0
Check tolerance cm3/1000s.	: <del></del> 5.0
Spreed	
Tolerance cm3/1000 strokes	: 7.0
Check tolerance	
cm3/1000s.	: 11.0
End of test specif	fication sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 28.08.95 Test oil : ISO 4113

Combination No. : 0 402 736 888

Injection pump

Pump designation : FES6P12OA12ORS7390 : 0 412 726 945 EP type number

Governor

Governer design. : RQV350...1100PA1237K

: 0 421 815 475 Governer no.

: 3282740 Cust. part No.

Customer-spec. information : CUMMINS Customer Motor : 6CTAA Power KW : 162.0

TEST BENCH REQUIREMENTS

: 3.2 Inlet line

Test oil inlet

temp. °C 40 Tolerance °C

: 2 417 413 086 Overflow valve

Inlet press. bar : 1.5

Overflow quantity

min. l/h Tolerance l/h : +- 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 har : +- 1.5 Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 2.90 Tolerance mm : ← 0.05

: +- 0.10 test only

Rack travel in mm: 20.50 Tolerance mm : + 0.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

: + 0.30Tolerance

Check

tolerance \*NW : + 0.50

Start of delivery blocking

\*NW after s.o.d. : 10.50 Tolerance : + 0.50 Tolerance

Check

tolerance 'NW

: + 0.75

Barrel no.

BASIC SETTING

1100 Rated speed rpm :

Rack travel in mm: 12.60

Tolerance mm : +- 0.05 +	
	Rated speed rpm : 1380
Del. quantity + cm3/1000 strokes : 164.0 +	guide sleeve travel mm : 13.50
cm5/1000 strokes : 104.0 +	Tolerance mm : + 0.50
Tolerance	Total ance into
cm3/1000 strokes : +- 1.0	
	GUIDE SLEEVE POSITION
Check tolerance	200
cm3/1000s. : $+$ 4.0 $+$	Rated speed rpm : 1200
Spreed	Rack travel in mm : 11.60
Tolerance	Tolerance mm : +- 1.50
cm3/1000 strokes : 5.0 +	
Charly to Language	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance + cm3/1000s. : 9.0 +	FOLL LOAD DELIVERY AT FOLL LOAD STOP
CIRD / 100000.	Rated speed rpm : 1100
Rated speed rpm : 350 +	Aneroid pressure
+	hPa : 1500
Rack travel in mm: 4.80 + Tolerance mm: + 0.30 +	Del. quantity cm3/1000 strokes : 164.0
Tolerance mm : +- 0.30 +- Del. quantity +-	cm3/1000 strokes : 164.0 Tolerance
cm3/1000 strokes : 18.0	cm3/1000 strokes : + 1.0
Tolerance	Check tolerance
cm3/1000 strokes : + 3.0 +	cm3/1000s. : +- 4.0
Check tolerance + 5.0 +	Spreed
cm3/1000s. : + 5.0 + 5.0	Tolerance cm3/1000 strokes : 5.0
Tolerance	Check tolerance
cm3/1000 strokes : 7.0 +	cm3/1000s. : 9.0
Check tolerance +	
cm3/1000s. : 1i.0 +	DATEN COCEN
<u> </u>	RATED SPEED
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR +	control lever
+	position degree : 69.0
CHINE CLEDIE TRAVEL	tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	control lever
Rated speed rpm : 350	position degree : 123.0
guide sleeve	tolerance degree : + 4.0
travel mm : 1.93	rack travel mm : 11.60
Tolerance mm : + 0.20	rack travel mm : 11.60 Rated speed rpm : 1145
Rated speed rpm : 1159	Tolerance 1/min : + 5
guide sleeve +	
travel mm : 10.27 +	rack travel mm : 4.00
Tolerance mm : + 0.15 +	Rated speed rpm : 1230
Rated speed rpm : 710	Tolerance 1/min : +- 15
guide sleeve	rack travel mm : 0.50
travel mm : 5.79	Tolerance mm : + 0.50
Tolerance mm : + 0.25	Rated speed rpm : 1350
132	
Rated speed rpm : 420 + guide sleeve +	LOW IDLE
travel mm : 4.28	
Tolerance mm : + 0.25	
·	

	ł	
control lever	‡	Pressure hPa : 170
position degree	: 73.0	rack travel mm : 11.10
tolerance degree	: + 4.0	Tolerance mm : + 0.20
control lever	Į	Pressure hPa : 330
position degree	: 21.0	rack travel mm : 12.10 Tolerance mm : ÷= 0.05
tolerance degree	: + 4.0	Tolerance mm : ÷→ 0.05
Testing:	1	
Datad amand man	. 750	START CUT-OUT
Rated speed rpm	: 350 : 4.80	Rated speed rpm : < 280
rack travel mm Tolerance mm	: + 0.10 +	Check
Detail annual man	. 250	speed 1/min : < 300
Rated speed rpm	: 250	
CRT mm min.	:> 7.70	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 350	Aneroid pressure
		hPa : 1500 Rated speed rpm : 750
TORQUE CONTROL		Del. quantity
	+	cm3/1000 strokes : 155.0
Rated speed rpm rack travel mm	: 1100 + : 12.60 +	Tolerance cm3/1000 strokes : ← 3.0
Tolerance mm	: + 0.05	Check tolerance
	<del>-</del>	cm3/1000s. : +- 6.0
Rated speed rpm rack travel mm	: 750 +	Spreed Tolerance
Tolerance mm		cm3/1000 strokes : 8.0
	+	Check tolerance
Rated speed rpm	: 900 + : 12.35 +	cm3/1000s. : 12.0
rack travel mm Tolerance mm	: + 3.15	Aneroid pressure
	+	hPa : -
Rated speed rpm rack travel mm		Rated speed rpm : 500 Del. quantity
Tolerance mm	1 T T T T T	cm3/1000 strokes : 107.0
	+	Tolerance
ANEROID/ALTITUDE		cm3/1000 strokes : +- 2.0 Check tolerance
COMPENSATOR TEST	+	cm3/1000s. : +- 4.0
	†	
SETTING	Į	BREAKAWAY
<b>.</b>	1400	
Rated speed rpm Pressure hPa	: 1100 : 1500	Rack travel in mm : 11.60
rack travel mm	: 12.60 +	Rated speed rpm : 1145
Tolerance mm	: <b>←</b> 0.05 +	Tolerance 1/min : +- 5
MEASUREMENT	Ŧ	
Pressure hPa	: - I	STARTING FUEL DELIVERY
Rated speed rpm	: 1100	
rack travel mm Tolerance mm	: 10.25 : + 0.20	Rated speed rpm : 100 rack travel mm : 20.50
TOTAL GUILLA HIN	Ţ	Tolerance mm : + 0.50

Rated speed rpm : 1100

Del. quantity cm3/1000 strokes : 255.0 Tolerance cm3/1000 strokes :  $\leftarrow$  20.0

Check tolerance

cm3/1000s. : +- 24.0

#### LOW IDLE

Rated speed rpm 350 4.80 rack travel mm 0.30 Tolerance mm Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance 7.0 cm3/1000 strokes : Check tolerance cm3/1000s. 11.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 15.08.95 Edition Test oil : ISO 4113

Combination No. : 0 402 736 890

Injection pump

Pump designation : FES6P120A120RS7314

EP type number : 0 412 726 901

Governor

Governer design. : RQV400...1250PA964

: -32K

: 0 421 815 486 Governer no.

Cust. part No. : 3282607

Customer-spec. information Customer : CUMMINS Motor : 6BTAA Power KW : 158.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance \*C : +- 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 3.70 Tolerance mm : +- 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm: 12.50 Tolerance mm : + 0.50

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -300

: + 0.30Tolerance Check

tolerance "NW :  $\leftarrow$  0.50

Start of delivery blocking

\*NW after s.o.d. : 5.50 Tolerance :  $\leftarrow$  0.50

Check

tolerance "NW : +- 0.75

Barrel no. : 1

BASIC SETTING

1250 Rated speed rpm :

Rack travel in mm: 14.60 Tolerance mm :  $\leftarrow$  0.05

Del. quantity - cm3/1000 strokes : 155.0 -	- guide sleeve - travel mm : 11.50 - Tolerance mm : +- 0.50
Tolerance cm3/1000 strokes : +- 1.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : +- 4.0 -	- Rated speed rpm : 1430
Spreed Tolerance cm3/1000 strokes : 5.0	Rack travel in mm : 13.60 Tolerance mm : + 1.30
Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 400	- Rated speed rpm : 1250 - Aneroid pressure - hPa : 1500
Rack travel in mm: 6.50 Tolerance mm: +- 0.30 Del. quantity	Del. quantity cm3/1000 strokes : 155.0 Tolerance
cm3/1000 strokes : 20.0 - Tolerance -	- cm3/1000 strokes : +- 1.0 - Check tolerance
cm3/1000 strokes : +- 3.0 Check tolerance 5.0	- cm3/1000s. : +- 4.0 - Spreed
cm3/1000S. : + 5.0 - Spreed - Tolerance	- Tolerance - cm3/1000 strokes : 5.0 - Check tolerance
cm3/1000 strokes : 7.0 - Check tolerance	- cm3/1000s. : 9.0
cm3/1000s. : 11.0	- RATED SPEED
3	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 60.0
	position degree : 60.0 tolerance degree : +- 4.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 400 guide sleeve	- position degree : 60.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 400 guide sleeve travel mm : 1.39 Tolerance mm : + 0.20	position degree : 60.0 tolerance degree : + 4.0 control lever position degree : 117.0 tolerance degree : + 4.0 rack travel mm : 13.60 Rated speed rpm : 1295
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 400 guide sleeve travel mm : 1.39 Tolerance mm : + 0.20  Rated speed rpm : 1314 guide sleeve	position degree : 60.0 tolerance degree : + 4.0  control lever position degree : 117.0 tolerance degree : + 4.0  rack travel mm : 13.60 Rated speed rpm : 1295 Tolerance 1/min : + 5
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 400 guide sleeve travel mm : 1.39 Tolerance mm : + 0.20  Rated speed rpm : 1314	position degree : 60.0 tolerance degree : + 4.0  control lever position degree : 117.0 tolerance degree : + 4.0  rack travel mm : 13.60 Rated speed rpm : 1295 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1480
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 400 guide sleeve travel mm : 1.39 Tolerance mm : +- 0.20  Rated speed rpm : 1314 guide sleeve travel mm : 7.65 Tolerance mm : +- 0.15  Rated speed rpm : 864 guide sleeve	position degree : 60.0 tolerance degree : + 4.0  control lever position degree : 117.0 tolerance degree : + 4.0  rack travel mm : 13.60 Rated speed rpm : 1295 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1480 Tolerance 1/min : + 15  rack travel mm : 0.50
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 400 guide sleeve travel mm : 1.39 Tolerance mm : +- 0.20  Rated speed rpm : 1314 guide sleeve travel mm : 7.65 Tolerance mm : +- 0.15  Rated speed rpm : 864	position degree : 60.0 tolerance degree : + 4.0  control lever position degree : 117.0 tolerance degree : + 4.0  rack travel mm : 13.60 Rated speed rpm : 1295 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1480 Tolerance 1/min : + 15
GUIDE SLEEVE TRAVEL  Rated speed rpm : 400 guide sleeve travel mm : 1.39 Tolerance mm : + 0.20  Rated speed rpm : 1314 guide sleeve travel mm : 7.65 Tolerance mm : + 0.15  Rated speed rpm : 864 guide sleeve travel mm : 4.76 Tolerance mm : + 0.25  Rated speed rpm : 550	position degree : 60.0 tolerance degree : + 4.0  control lever position degree : 117.0 tolerance degree : + 4.0  rack travel mm : 13.60 Rated speed rpm : 1295 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1480 Tolerance 1/min : + 15  rack travel mm : - 0.50 Tolerance mm : + 0.50
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 400 guide sleeve travel mm : 1.39 Tolerance mm : + 0.20  Rated speed rpm : 1314 guide sleeve travel mm : 7.65 Tolerance mm : + 0.15  Rated speed rpm : 864 guide sleeve travel mm : 4.76 Tolerance mm : + 0.25  Rated speed rpm : 550	position degree : 60.0 tolerance degree : + 4.0  control lever position degree : 117.0 tolerance degree : + 4.0  rack travel mm : 13.60 Rated speed rpm : 1295 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1480 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1550

tolerance degree	: + 4.0	† Tolerance mm	: <b>←</b> 0.05
control lever position degree tolerance degree	: 16.0 : +- 4.0	START CUT-OUT	
Testing:		Rated speed rpm Check	
Rated speed rpm rack travel mm Tolerance mm	: 400 : 6.50	speed 1/min	
		FUEL DELIVERY CHA	ARACTERISTICS
Rated speed rpm	: 300	+ Aneroid pressure + hPa	: 1500
CRT mm min.	: > 8.50	Rated speed rpm Del. quantity	: 750
Rated speed rpm	: 430	cm3/1000 strokes Tolerance cm3/1000 strokes	
TORQUE CONTROL		+ Check tolerance	
Rated speed rpm rack travel mm	: 1250 : 14.60	+ cm3/1000s. + Spreed + Tolerance	: ← 6.0
rack travel mm Tolerance mm	: + 0.05	cm3/1000 strokes Check tolerance	: 8.0
Rated speed rpm rack travel mm		cm3/1000s.	: 12.0
Tolerance mm	: <b>←</b> 0.10	Aneroid pressure	
Rated speed rpm	: 400 · 12 25	Rated speed rpm Del. quantity	: 500
Rated speed rpm rack travel mm Tolerance mm	: + 0.15	+ cm3/1000 strokes + Tolerance	: 79.0
ANEROID/ALTITUDE		- + cm3/1000 strokes + Check tolerance	
COMPENSATOR TEST		+ cm3/1000s.	: <del>←</del> 4.0
SETTING		BREAKAWAY	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1250 : 1500 : 14.60 : ← 0.05	Rack travel in mm Rated speed rpm Tolerance 1/min	: 1295
Pressure hPa	: -	STARTING FUEL DEL	
Rated speed rpm rack travel mm Tolerance mm	: 1250 : 11.10 : ← 0.10	Rated speed rpm Del. quantity cm3/1000 strokes	: 100 : 200.0
Rated speed rpm	: 1250	Tolerance cm3/1000 strokes	
Pressure hPa rack travel mm Tolerance mm	: 275 : 11.90 : ← 0.20	Check tolerance cm3/1000s.	: +- 19.0
Pressure hPa rack travel mm	: 485 : 13.80	‡	

## LOW IDLE

400 Rated speed rpm : 6.50 : + 0.30 rack travel mm Tolerance mm Del. quantity cm3/1000 strokes : 20.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. 11.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 24.08.95 : ISO 4113

Combination No.

: 0 402 744 804

Injection pump

Pump designation : PES4P120A320RS7402

EP type number

: 0 412 724 804

Governor

Governer design.

: RQV275...1300PA1257K

Governer no.

: 0 421 815 494

Cust. part No.

: CCEP 5154 66-238

Customer-spec. information

Customer

: RVI

Motor

: MIDR 04-02-26 A4

Power KW

: 100.0

#### TEST BENCH REQUIREMENTS

Inlet line

: 3.2

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve

: 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

208.5

Tolerance bar

1.5

Test lines

: 1 680 750 089

Outside diameter :

8.0

x inside diameter: 3.0 600 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar: Tolerance bar : + 1.0

Prestroke mm 5.20 : **←** 0.05 Tolerance mm

test only : + 0.10

Rack travel in mm: 13.00

: + 0.50Tolerance mm

Firing order : 1-3-4-2

: 0-90-180-270 Phasina

Tolerance : + - 0.30

Check

: + 0.50tolerance 'NW

Start of delivery mark

Barrel no. 1

BASIC SETTING

Rated speed rpm 1200

Del. quantity

cm3/1000 strokes : 245.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. : +-4.0

Spreed

Tolerance

cm3/1000 strokes :

5.0

Check tolerance	1		
cm3/1000s. :	9.0	W-17	
	+	FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm :	325 +		
Don't Americal Service		Rated speed rpm	: 1200
Rack travel in mm : - Tolerance mm : +-		Aneroid pressure hPa	: 1200
Tolerance mm : +- Del. quantity	1	Del. quantity	1200
cm3/1000 strokes :	28.0	cm3/1000 strokes	• 245.0
Tolerance	1	Tolerance	
cm3/1000 strokes : +-	2.0	cm3/1000 strokes	: <del>+</del> 1.0
Check tolerance	+	Check tolerance	
cm3/1000s. : +-	6.0	cm3/1000s.	: <del>←</del> 4.0
Spreed	†	Spreed	
Tolerance cm3/1000 strokes :	8.0	Tolerance cm3/1000 strokes	: 5.0
Check tolerance	. I	Check tolerance	. 5.0
cm3/1000s. :	12.0	cm3/1000s.	: 9.0
	+		,,,,
(D) OFFITAIO OF THE POST	1 7 445	DATEN OPERA	
(B) SETTING OF INJECTION	N PUMP †	RATED SPEED	
WITH GOVERNOR	Ī		
		control lever	
GUIDE SLEEVE TRAVEL	1	position degree	: 300.0
	+	tolerance degree	
	325		
guide sleeve	· †	rack travel mm	: -1.00
	1.52	Rated speed rpm	
Tolerance mm : +-	0.20	Tolerance 1/min	<b>:</b> ← 5
Rated speed rpm : 13	377 <del>-</del>	rack travel mm	: -10.10
guide sleeve	1	Rated speed rpm	
	10.32 <del> </del>	Tolerance 1/min	
Tolerance mm : +-	0.15		
	+	rack travel mm	: -14.05
The state of the s	938	Tolerance mm	: + 0.50
guide sleeve travel mm :	6.86	Rated speed rpm	: 1550
Tolerance mm : +-			
TOTEL SELECTION		LOW IDLE	
Rated speed rpm : 5	550		
guide sleeve	+		
	3.92	control lever	
Tolerance mm : +-	0.25	position degree	
Rated speed rpm : 16	550	tolerance degree	. T 4.U
guide sleeve	I	Testing:	
travel mm : 1	13.50	resemig.	
Tolerance mm : +-		Rated speed rpm	: 325
	<del> </del>	rack travel mm	: -8.80
	+	Tolerance mm	: + 0.10
GUIDE SLEEVE POSITION +			
Pated chard and 1/	†	Rated speed rpm	: 225
Rated speed rpm : 14	T	CRT mm min.	: > 6.54
Rack travel in mm : 1	3.10 I	OUT HER HILLS	0.5+
Tolerance mm : +-		Rated speed rpm	: 390
To the second se	1		

		+ Tolerance
TORQUE CONTROL	<del></del>	
TORQUE CONTROL		+ Check tolerance + cm3/1000s. :+- 6.0
Rated speed rpm	: 1200	+
Rated speed rpm	: 850	+ Aneroid pressure + hPa : 1200
rack travel mm	: -1.05	Rated speed rpm : 1300
Tolerance mm	: +- 0.10	Del. quantity
		+ cm3/1000 strokes : 235.0
Rated speed rpm	: 1300	Tolerance
rack travel mm		+ cm3/1000 strokes : +- 6.0
Tolerance mm	: <del>+-</del> 0.25	+ Check tolerance
<b>6</b>	700	+  cm3/1000s. : +- 9.0
Rated speed rpm		Anonoid masseurs
rack travel mm Tolerance mm	: + 0.20	Aneroid pressure hPa: -
rocerance nan		Rated speed rpm : 1200
·		Del. quantity
ANEROID/ALTITUDE		+ cm3/1000 strokes : 183.0
COMPENSATOR TEST		† Tolerance
		+ cm3/1000 strokes : +- 1.0
0.00000110		+ Chack tolerance
SETTING		± cm³/1000s. : +- 4.0
Rated speed rpm	: 1200	
Pressure hPa		+ BREAKAWAY
		+
MEASUREMENT		†
Dragging boo	<u> </u>	+ Rack travel in mm: -1.00
Pressure hPa Rated speed rpm	1200	+ Rated speed rpm : 1365 + Tolerance 1/min : +- 5
rack travel mm	-2.5N	T Total and Thirth
Tolerance mm	: + 0.20	1
Rated speed rpm	: 1200	STARTING FUEL DELIVERY
Pressure hPa	: 200	+ Rated speed rpm : 100
rack travel mm	: -1.95	+ Del. quantity
Tolerance mm	: +- 0.20	+ cm3/1000 strokes : 100.0
		+ Tolerance
Pressure hPa	: 440_	+ cm3/1000 strokes : + 15.0
rack travel mm	: -0.70	+ Check tolerance
Tolerance mm	: <b>←</b> 0.05	+ cm3/1000s. : +- 19.0
START CUT-OUT	<u> </u>	<del></del> <u>†</u>
Simil OF OF		
Rated speed rpm	: < 275	+ LOW IDLE
Check		+
speed 1/min	: < 285	+ Rated speed rpm : 325
		+ rack travel mm : -8.80
EUR DEL TUEDY CHADACTERISTICS		Tolerance mm : + 0.20 Del. quantity
FUEL DELIVERY CHARACTERISTICS		- cm3/1000 strokes : 28.0
Aneroid pressure		Tolerance
hPa	: 1200	- cm3/1000 strokes : + 2.0
Rated speed rpm	: 850	+ Check tolerance
Del. quantity		+ cm3/1000s. : + 6.0
cm3/1000 strokes	: 235.0	+ Spreed

Tolerance : 8.0 Check tolerance cm3/1000s. : 12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W480/...

Edition : 21.08.95 Test oil : ISO 4113

Combination No. : 0 402 746 645

Injection pump

Pump designation : PES6P12OA32ORS7364 EP type number : 0 412 726 930

Governor

Governer design. : RQV300...1050PA1204 Governer no. : 0 421 814 123

Cust. part No. : CCEP 5148 66-236

Customer-spec. information

Customer : RVI

Motor : MIDR 06.20.45041

Power KW : 217.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values \_\_\_\_\_

#### BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.55 Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.25Tolerance mm :  $\leftarrow 0.75$ 

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.30

Check

tolerance °NW :  $\leftarrow$  0.50

Start of delivery mark

Barrel no. : 1

#### BASIC SETTING

Rated speed rpm : 600

Del. quantity cm3/1000 strokes : 2

cm3/1000 strokes : 278.0

Tolerance cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed Tolerance

cm3/1000 strokes : 5.0

	<u> </u>	Tolerance mm : +- 0.50
Check tolerance	+	
cm3/1000S.	: 9.0	
	+	GUIDE SLEEVE POSITION
Rated speed rpm	: 300	
	+	Rated speed rpm : 1230
Rack travel in mm	: -7.30	,
Tolerance mm	: + 0.20 +	Rack travel in mm : 11.70
Del. quantity	1	Tolerance mm : +- 1.30
cm3/1000 strokes	: 25.0	
Tolerance	1	
cm3/1000 strokes	: + 2.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance		
cm3/1000S.	: + 5.0	Rated speed rpm : 600
Spreed	1	Aneroid pressure
Tolerance	1	hPa : 1000
cm3/1000 strokes	: 8.0	Del. quantity
Check tolerance	1	cm3/1000 strokes : 278.0
cm3/1000s.	: 12.0	Tolerance
<i></i>	1	cm3/1000 strokes : +- 1.0
	1	Check tolerance
(B) SETTING OF IN.	JECTTON PLIMP	cm3/1000s. : +- 4.0
WITH GOVERNOR	1	Spreed
WITH GOVERNOR	$\underline{1}$	Tolerance
		cm3/1000 strokes : 5.0
GUIDE SLEEVE TRAVE	=1	Check tolerance
GOIDE SEEENE TRAVE	I	cm3/1000s. : 9.0
Detect speed nom	: 300	CHD/ 10003 9.0
Rated speed rpm	: 300	
guide sleeve	: 1.33	DATES OPERS
travel mm		RATED SPEED
Tolerance mm	: ← 0.25	
Datad amand upp	: 1135	control lever
Rated speed rpm	: 1135	
guide sleeve	. 0./5	position degree : 302.0
travel mm	8.45	tolerance degree : $+$ 4.0
Tolerance mm	: + 0.25	manda demonstrations at 4.00
Detect accord and	. 752	rack travel mm : -1.00
Rated speed rpm	: 752	Rated speed rpm : 1120 Tolerance 1/min : + 5
guide sleeve	1 00	Tolerance 1/min : + 5
travel mm	: 6.09	
Tolerance mm	: <b>←</b> 0.25 <b>+</b>	rack travel mm : -9.60
	7/5	Rated speed rpm : 1290
Rated speed rpm	: 365	Tolerance 1/min : + 15
guide sleeve	3.0	man   Amazon   man   17 10
travel mm	: 2.40	rack travel mm : -13.10
Tolerance mm	: + 0.25	Tolerance mm : + 0.50
	†	Rated speed rpm : 1400
Rated speed rpm	: 415 +	
guide sleeve	· · · · · · · · · · · · · · · · · ·	
travel mm	: 3.28	LOW IDLE
Tolerance mm	: + 0.25 +	
	+	
Rated speed rpm	: 460 +	control lever
guide sleeve	+	position degree : 267.0
travel mm	: 3.86	tolerance degree : + 4.0
Tolerance mm	: <b>←</b> 0.25 <b>+</b>	
	+	Testing:
Rated speed rpm	: 1460 +	
guide sleeve	+	Rated speed rpm : 200
travel mm	: 11.50 +	

CRT mm max. : < -4.80 Rated speed rpm 360 TORQUE CONTROL Rated speed rpm 600 : 1050 Rated speed rpm Tolerance mm : + 0.10ANEROID/ALTITUDE COMPENSATOR TEST SETTING 500 Rated speed rpm : Pressure hPa 1000 **MEASUREMENT** Pressure hPa Rated speed rpm 500 rack travel mm -2.10Tolerance mm : +- 0.20 Rated speed rpm 500 240 Pressure hPa rack travel mm -1.45Tolerance mm : + 0.15 Pressure hPa 400 rack travel mm -0.50: +- 0.05 Tolerance mm START CUT-OUT Rated speed rpm 230 Check : < 250 speed 1/min FUEL DELIVERY CHARACTERISTICS Aneroid pressure 1000 hPa Rated speed rpm 1050 Del. quantity cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. : +-6.0

Rated speed rpm 500 Del. quantity cm3/1000 strokes : 182.0 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. 4.0 **BREAKAWAY** Rack travel in mm: -1.00 1120 Rated speed rpm : Tolerance 1/min STARTING FUEL DELIVERY Rated speed rpm 100 20.25 rack travel mm Tolerance mm : + - 0.75Del. quantity cm3/1000 strokes : 135.0 Tolerance cm3/1000 strokes : +- 15.0Check tolerance cm3/16 JS. : + 19.0LOW IDLE Rated speed rpm 300 rack travel mm -7.30Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s.5.0 : +-Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000S.12.0 End of test specification sheet

Aneroid pressure

## Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 18.07.95 Edition : ISO 4113 Test oil

Combination No. : 0 402 746 649

Injection pump

Pump designation : PES6P120A320RS7359

EP type number : 0 412 726 925

Governor

Governer design. : RQ275/1050PA1217 Governer no. : 0 421 801 782

Cust. part No. : CCEP 5150 66

: -225/228

Customer-spec. information

: RVI Customer

: MIDRO62045 I-B41 Motor

Power KW : 185.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1.

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Overflow quantity

min. l/h : 220 Tolerance l/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

208.5 bar Tolerance bar : + 1.5 Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 600 x length mm :

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

4.75 Prestroke mm Tolerance mm : **←** 0.05

test only : ← 0.10

Rack travel in mm : 20.25 Tolerance mm : + 0.75

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

: + 0.30Tolerance

Check

tolerance \*NW : ← 0.50

Start of delivery mark

Barrel no. : 1

# BASIC SETTING

700 Rated speed rpm

Del. quantity cm3/1000 strokes : 194.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

Check tolerance cm3/1000s. : +- 4.0	travel mm : 11.50 Tolerance mm : + 0.50
Spreed Tolerance	
cm3/1000 strokes : 5.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : 9.0	Rated speed rpm : 600
Rated speed rpm : 275	Rack travel in mm: 20.00 Tolerance mm: + 0.80
Rack travel in mm : -6.10 Tolerance mm : +- 0.20 Del. quantity	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : 33.0 Tolerance	Rated speed rpm : 700 Aneroid pressure
cm3/1000 strokes : + 2.0 Check tolerance	hPa : 1000 Del. quantity
cm3/1000s. : +- 5.0 Spreed	- cm3/1000 strokes : 194.0 - Tolerance
Tolerance cm3/1000 strokes : 8.0	cm3/1000 strokes : +- 1.0 Check tolerance
Check tolerance cm3/1000s. : 12.0	cm3/1000s. : + 4.0 Spreed
	Tolerance cm3/1000 strokes : 5.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+ Check tolerance + cm3/1000S. : 9.0
GUIDE SLEEVE TRAVEL	RATED SPEED
Rated speed rpm : 275 guide sleeve	control lever
travel mm : 1.37 Tolerance mm : + 0.10	+ position degree : 274.0 + tolerance degree : + 4.0
travel mm : 1.37 Tolerance mm : + 0.10  Rated speed rpm : 1137	tolerance degree : + 4.0 rack travel mm : -1.00
travel mm : 1.37 Tolerance mm : + 0.10	tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1130 Tolerance 1/min : + 5
travel mm : 1.37 Tolerance mm : + 0.10  Rated speed rpm : 1137 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10  Rated speed rpm : 1050	tolerance degree : + 4.0  rack travel mm : -1.00  Rated speed rpm : 1130  Tolerance 1/min : + 5  rack travel mm : -8.55  Rated speed rpm : 1245
travel mm : 1.37 Tolerance mm : + 0.10  Rated speed rpm : 1137 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10  Rated speed rpm : 1050 guide sleeve travel mm : 6.00	tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1130 Tolerance 1/min : + 5  rack travel mm : -8.55 Rated speed rpm : 1245 Tolerance 1/min : + 15
travel mm : 1.37 Tolerance mm : + 0.10  Rated speed rpm : 1137 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10  Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10	tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1130 Tolerance 1/min : + 5  rack travel mm : -8.55 Rated speed rpm : 1245 Tolerance 1/min : + 15  rack travel mm : -12.10 Tolerance mm : + 0.50
travel mm : 1.37 Tolerance mm : + 0.10  Rated speed rpm : 1137 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10  Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 391 guide sleeve	tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1130 Tolerance 1/min : + 5  rack travel mm : -8.55 Rated speed rpm : 1245 Tolerance 1/min : + 15  rack travel mm : -12.10 Tolerance mm : + 0.50 Rated speed rpm : 1350
travel mm : 1.37 Tolerance mm : + 0.10  Rated speed rpm : 1137 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10  Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 391 guide sleeve travel mm : 4.37 Tolerance mm : + 0.10	tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1130 Tolerance 1/min : + 5  rack travel mm : -8.55 Rated speed rpm : 1245 Tolerance 1/min : + 15  rack travel mm : -12.10 Tolerance mm : + 0.50
travel mm : 1.37 Tolerance mm : + 0.10  Rated speed rpm : 1137 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10  Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 391 guide sleeve travel mm : 4.37 Tolerance mm : + 0.10  Rated speed rpm : 490 quide sleeve quide sleeve quide sleeve quide sleeve	tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1130 Tolerance 1/min : + 5  rack travel mm : -8.55 Rated speed rpm : 1245 Tolerance 1/min : + 15  rack travel mm : -12.10 Tolerance mm : + 0.50 Rated speed rpm : 1350  LOW IDLE  control lever
travel mm : 1.37 Tolerance mm : + 0.10  Rated speed rpm : 1137 guide sleeve travel mm : 6.37 Tolerance mm : + 0.10  Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 391 guide sleeve travel mm : 4.37 Tolerance mm : + 0.10  Rated speed rpm : 490	tolerance degree : + 4.0  rack travel mm : -1.00 Rated speed rpm : 1130 Tolerance 1/min : + 5  rack travel mm : -8.55 Rated speed rpm : 1245 Tolerance 1/min : + 15  rack travel mm : -12.10 Tolerance mm : + 0.50 Rated speed rpm : 1350  LOW IDLE

	A7-	3 5 1 (*)
Rated speed rpm	: 2/5	+ Del. quantity + cm3/1000 strokes : 197.5
rack travel mm Tolerance mm	· + 0.10	Tolerance
roceratice limit	0.10	- cm3/1000 strokes : +- 3.0
rack travel mm	: -10.50	+ Check tolerance
rack travel mm Rated speed rpm Tolerance 1/min	: 385	+ cm3/1000s. : +- 6.0
Tolerance 1/min	: +- 20	+
Dakad award was	200	+ Aneroid pressure
Rated speed rpm	: 200	+ hPa : - + Rated speed rpm : 500
CRT mm min.	< -4.90	+ Del. quantity
	4.70	+ cm3/1000 strokes : 148.0
TORQUE CONTROL		+ cm3/1000 strokes : +- 1.0
0.4.1	. 700	+ Check tolerance
Rated speed rpm	: 700	+  cm3/1000s. : +- 4.0
Rated speed rpm	: 1050	
Rated speed rpm Tolerance mm	: +- 0.10	+ BREAKAWAY
		+
ANICHOTO (A) TTTICE		Pools to see 1 200
ANEROID/ALTITUDE		+ Rack travel in mm : -1.00 + Rated speed rpm : 1130
COMPENSATOR TEST		+ Tolerance 1/min : + 5
		Total dice 17 million 1
SETTING		+
Rated speed rpm	: 500	+ STARTING FUEL DELIVERY
Pressure hPa	: 7000	Rated speed rpm : 100
MEASUREMENT		+ Rated speed rpm : 100 + Del. quantity
MENOOVEREIAL		cm3/1000 strokes : 165.0
Pressure hPa	: -	+ Tolerance
Rated speed rpm rack travel mm	500	+ cm3/1000 strokes : +- 15.0
rack travel mm Tolerance mm	: -1.50	+ Check tolerance
Tolerance mm	: +- 0.20	+ cm3/1000s. : $+$ 19.0
D-41 1		†
Rated speed rpm	: 500	Ī
Pressure hPa	: 200	
rack travel mm	: -0.95	+ LOW IDLE
Tolerance mm	: + 0.15	+
	242	Rated speed rpm : 275
Pressure hPa	: 240	rack travel mm : -6.10
rack travel mm	: -0.60 : → 0.05	+ Tolerance mm : + 0.20
Tolerance mm	0.05	+ Del. quantity + cm3/1000 strokes : 33.0
		Tolerance
START CUT-OUT		+ cm3/1000 strokes : + 2.0
		+ Check tolerance
Rated speed rpm	: < 195	- cm3/1000s. : +- 5.0
Check		+ Spreed
speed 1/min	: < 215	+ Tolerance + cm3/1000 strokes : 8.0
FUEL DELIVERY CHA	ARACTERISTICS	= cm3/1000s. : 12.0
TOLK DELLYLING OUR	THE POST CONTRACT AND PARCE	+
Aneroid pressure		+
hPa	: 1000	†
Rated speed rpm	: 1050	+

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.07.95 Test oil : ISO 4113

Combination No. : 0 402 746 894

Injection pump

Pump designation : FES6P110A320RS7208

EP type number : 0 412 716 803

Governor

Governer design. : RQV275...1175PA942

: -1K

: 0 421 815 244 Governer no.

Cust. part No. : CCEP 5100A

Customer-spec. information Customer : RVI

Motor : MIDRO60226 M

Power KW : 210.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C

: 1 417 413 025 Overflow valve

Inlet press. bar : 1.5

Tolerance bar

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 Tolerance bar

Test lines : 1 680 750 089 Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0 : +- 1.0 Tolerance bar

Prestroke mm 4.15 : +- 0.05 Tolerance mm

test only :  $\leftarrow$  0.10

Rack travel in mm: 13.50 : +- 0.50 Tolerance mm

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.30

Check

: + 0.50tolerance °NW

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm 1175

Del. quantity

cm3/1000 strokes : 171.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

Check tolerance	+	guide sleeve
cm3/1000s.	: <del>←</del> 3.5 +	travel mm : 13.50
	1	Tolerance mm : +- 0.50
Spreed		, , , , , , , , , , , , , , , , , , ,
Tolerance	1	
cm3/1000 strokes	. 40	GUIDE SLEEVE POSITION
CIID/ 1000 Strokes	· 4.0 T	GOIDE SPEENE LOSTLINA
I . I		2.4.4
Check tolerance	- t	Rated speed rpm : 1400
cm3/1000s.	· 7.5	
	+	Rack travel in mm : 13.00
Del. quantity	+	Tolerance mm : + 1.30
cm3/1000 strokes	: 21.0	
Tolerance	+	
cm3/1000 strokes	: +- 2.5 <del> </del>	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	1	
cm3/1000s.	: +- 5.0	Rated speed rpm : 1175
Spreed		Aneroid pressure
	Ŧ	
Tolerance	, , <del>, , , , , , , , , , , , , , , , , </del>	
cm3/1000 strokes		Del. quantity
Check tolerance	†	cm3/1000 strokes : 171.0
cm3/1000s.	: 7.5	Tolerance
	+	cm3/1000 strokes : $+-$ 1.0
	+	Check tolerance
(B) SETTING OF IN	NECTION PUMP	$cm3/1000s.$ : $\leftarrow$ 3.5
WITH GOVERNOR	1	Spreed
	1	Tolerance
		cm3/1000 strokes : 4.0
GUIDE SLEEVE TRAV	/CI	Check tolerance
GOIDE STEERE IKAN	T T	
	7	cm3/1000s. : 7.5
Rated speed rpm	: 275	
guide sleeve	<b>ન</b> ે	
travel mm	: 1.00 +	RATED SPEED
Toterance mm	: <b>←</b> 0.25 <b>+</b>	
	+	
Rated speed rpm	: 1256 +	control lever
guide sleeve	+	position degree : 114.0
travel mm	: 9.17	tolerance degree : + 4.0
Tolerance mm	: + 0.25	
Totel diffe likil	1	rack travel mm : -1.00
Rated speed rpm	: 888	
	. 000	
guide sleeve	, <u> </u>	Tolerance 1/min : + 5
travel mm	: 6.57	40.07
Tolerance mm	: + 0.25 +	rack travel mm : -10.05
	+	Rated speed rpm : 1430
Rated speed rpm	: 390 +	Tolerance 1/min : + 15
guide steeve	+	
travel mm	: 2.39	rack travel mm : -13.55
Tolerance mm	: + 0.25	Tolerance mm : + 0.55
		Rated speed rpm : 1600
Rated speed rpm	: 440	The second secon
	• 🗝 T	
guide sleeve	: 3.01	LOW IDLE
travel mm		FOM TOPE
Tolerance mm	: +- 0.25	
	+	
Rated speed rpm	: 550 +	control lever
guide sleeve	+	position degree : 60.0
travel mm	: 3.92	tolerance degree : +- 4.0
Tolerance mm	: + 0.25	<del>-</del>
	1	Testing:
Rated speed rpm	: 1650	
Tarea opeca i pill	- 1000	

Rated speed rpm		
rack travel mm		
Tolerance mm	: ← 0.20	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 200	Aneroid pressure
nacca speca rpm	. 200	hPa : 1000
CRT mm max.	: < -8.20	Rated speed rpm : 700
	+	Del. quantity
Rated speed rpm	: 415 +	cm3/1000 strokes : 151.0
	†	Tolerance
TODOUR CONTROL		cm3/1000 strokes : + 3.0
TORQUE CONTROL	1	Check tolerance cm3/1000s. : +- 6.0
Rated speed rpm	: 1175	CM3/10003 +- 0.0
Marca Speca (pill		Aneroid pressure
Rated speed rpm	: 700	hPa : -
rack travel mm	: -0.70	Rated speed rpm : 700
Tolerance mm	: + 0.10 +	Del. quantity
	+	cm3/1000 strokes : 55.0
Rated speed rpm		Tolerance
rack travel mm		cm3/1000 strokes : +- 5.0
Tolerance mm	: + 0.10	Check tolerance cm3/1000s. : +- 8.0
Rated speed rpm	: 800	Spreed
rack travel mm	-0.35	Tolerance
Tolerance mm		cm3/1000 strokes : 8.0
	+	
	+	Aneroid pressure
ANEROID/ALTITUDE	+	hPa : -
COMPENSATOR TEST	†	Rated speed rpm : 500
	†	Del. quantity cm3/1000 strokes : 75.0
SETTING	I	Tolerance
2E1: TMG	I	cm3/1000 strokes : +- 1.0
Rated speed rpm	: 1175	Check tolerance
Pressure hPa		cm3/1000s. : + 3.5
	+	
MEASUREMENT	+	
n	†	BREAKAWAY
Pressure hPa	1175	
Rated speed rpm rack travel mm	-3.30	Rack travel in mm : -1.00
Tolerance mm	: + 0.20 ±	Rated speed rpm : 1245
rotor arroo man	1	Tolerance 1/min : +- 5
Rated speed rpm	: 1175	
	+	
Pressure hPa	: 240 +	CTARTAIC FUEL ACTIVICAY
rack travel mm	: -2.70 : + 0.20	STARTING FUEL DELIVERY
Tolerance mm	· - 0.20	Rated speed rpm : 100
Pressure hPa	: 520	Del. quantity
rack travel mm	: -1.45	cm3/1000 strokes : 105.0
Tolerance mm	: + 0.05	Tolerance
	+	cm3/1000 strokes : + 15.0
***		Check tolerance
START CUT~OUT	†	cm3/1000s. : + 19.0
Batad apaed apa	: < 200	
Rated speed rpm Check	· · · Luu I	
speed 1/min	: < 220	

# LOW IDLE

Del. quantity
cm3/1000 strokes : 21.0
Tolerance
cm3/1000 strokes : + 2.5
Check tolerance
cm3/1000s. : + 5.0
Spreed
Tolerance
cm3/1000 strokes : 4.5
Check tolerance
cm3/1000s. : 7.5

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 22.08.95 Edition : ISO 4113 Test oil

Combination No. : 0 402 746 909

Injection pump

Pump designation : FES6P120A320RS7236 EP type number : 0 412 726 848

Governor Governer design. : RQV275...1000PA1001

Governer no. : 0 421 813 936

Cust. part No. : CCEP 5116A PROJ.171

Customer-spec. information

Customer : RVI

: MIDR 063540 J/3 Motor

Power KW : 306.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar 1.5 Tolerance bar

Test lines : 1 680 750 039

Outside diameter : 8.0 x inside diameter : 3.0

x length mm 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar 1.0

Prestroke mm 4.55 Tolerance mm : +- 0.05

test only : + 0.10

Rack travel in mm: 13.50 Tolerance mm : **←** 0.50

Firing order : 1-5- 3- 6- 2-

: 4

: 0-60-120-180-240 Phasing

: -300

: + - 0.30Tolerance

Check

tolerance "NW : + - 0.50

Start of delivery mark

Barrel no. 1

BASIC SETTING

600 Rated speed rpm

Del. quantity

cm3/1000 strokes : 310.0

Tolerance

1.0 cm3/1000 strokes : +-

Check tolerance

cm3/1000s. 4.0 : +-

	+		
Spreed		control lever	
Tolerance	1	position degree	: 302.0
cm3/1000 strokes :	: 5.0	tolerance degree	
		_	
Check tolerance	+	rack travel mm	
cm3/1000s. :	: 9.0 +	Rated speed rpm	: 1070
	+	Tolerance 1/min	
Rated speed rpm :	: 300 +		
	+	rack travel mm	: -9.70
Rack travel in mm :		Rated speed rpm	
Tolerance mm :	: +- 0.20 +	Tolerance 1/min	: <del>+-</del> 15
Del. quantity	+		
cm3/1000 strokes :	: 31.0 +	rack travel mm	
Tolerance	+	Tolerance mm	
cm3/1000 strokes :	: +- 2.0 +	Rated speed rpm	: 1350
Check tolerance	+		
	: <del>+</del>		
Spreed	+	LOW IDLE	
Tolerance	+		
cm3/1000 strokes :	; 8.u †		
Check tolerance	12.0	control lever	2// 0
cm3/1000s. :	12.0	position degree	
	†	tolerance degree	: +- 4.0
(B) SETTING OF INJE	CCTTON DUMP	Testing:	
WITH GOVERNOR	CLION FORF	resting:	
MILL GOVEKIANK	I	Rated speed rpm	• 300
	I	rack travel mm	
		Tolerance mm	
GUIDE SLEEVE POSITI	ON ±	rocer drice num	
GOIDE OFFERE ! OOT! I	1	Rated speed rpm	: 200
Rated speed rpm :	1150	The second of th	
videa opera i pii	+	CRT mm max.	: < -7.20
Rack travel in mm :	16.50		
Tolerance mm :	+ 1.30 +	Rated speed rpm	: 370
	+		
FULL LOAD DELIVERY	AT FULL LOAD STOP +	TORQUE CONTROL	
	†	Dutad and dura	
Rated speed rpm :	600	Rated speed rpm	: 600
Aneroid pressure	1300	Rated speed rpm	. 1000
<pre>hPa : Del. quantity</pre>	T 1	Tolerance mm	
cm3/1000 strokes :	310 O I	roterance nun	. +- 0.10
Tolerance	1	Rated speed rom	• 500
cm3/1000 strokes :	+ 10	Rated speed rpm rack travel mm Tolerance mm	· -5.50
Check tolerance	1.0	Tolerance mm	· + 0.10
	+ 4.0	rocci di loc lini	
Spreed	1		
Tolerance	1	ANEROID/ALTITUDE	
cm3/1000 strokes :	5.0	COMPENSATOR TEST	
Check tolerance	1	2000 2000000000000000000000000000000000	
cm3/1000S. :	9.0		
	+	SETTING	
RATED SPEED	+	Rated speed rpm	
-	+	Pressure hPa	
	+		
	+	MEASUREMENT	
	•		

Danas	•	†
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	500 -5.00 +- 0.20	BREAKAWAY
Rated speed rpm	: 500	+ Rack travel in mm : -1.00 + Rated speed rpm : 1070 + Tolerance 1/min : +- 5
Pressure hPa rack travel mm Tolerance mm	: 240 : -3.80 : +- 0.20	Toterance min . +- 3
Pressure hPa rack travel mm Tolerance mm	: 600 : -0.95 : + 0.05	Del. quantity cm3/1000 strokes : 160.0 Tolerance cm3/1000 strokes : +- 10.0
START CUT-OUT		+ Cms/1000 strokes : +- 10.0 + Check tolerance + cm3/1000s. : +- 14.0
Rated speed rpm Check speed 1/min		14.0
specu mim		LOW IDLE
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s.  Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000s.	: 1000 : 1000 : 287.0 : ← 3.0 : ← 6.0 : - : 500 : 138.0	Rated speed rpm : 300 rack travel mm : -8.60 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 31.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0
cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 12.0 : - : 500	End of test specification sheet
Check tolerance cm3/1000s.	: + 4.0	‡

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 22.08.95 : ISO 4113

Combination No. : 0 402 746 931

Injection pump

Pump designation : FES6P120A320RS7236

EP type number : 0 412 726 848

Governor

Governer design. : RQV275...1000PA1001

: -2

Governer no.

: 0 421 813 989

Cust. part No. : CCEP5128A 66-194

Customer-spec. information

Customer : RVI

Motor : MIDR 063540 N/3

Power KW : 283.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve

: 2 417 413 071

Inlet press. bar :

2.5

Tolerance bar

: + 0.1

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar

: + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter :

3.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

Prestroke mm 4.55

: +- 0.05 Tolerance mm

test only : + - 0.10

Rack travel in mm: 19.50

: +- 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.30

Check

tolerance °NW : + 0.50

Start of delivery mark

Barrel no. :

BASIC SETTING

Rated speed rpm :

600

Rack travel in mm: -7.25

Tolerance mm : + 0.30

Del. quantity

cm3/1000 strokes : 74.0

Tolerance +	
cm3/1000 strokes : +- 1.0 +	
	FULL LCAD DELIVERY AT FULL LOAD STOP
Check tolerance	
cm3/1000s. : +- 4.0 +	Rated speed rpm : 600
<u> </u>	Aneroid pressure
Spreed	hPa : 1000
<u> </u>	Det. quantity
Tolerance	cm3/1000 strokes : 290.0
cm3/1000 strokes : 4.0 +	Tolerance
Check tolerance	cm3/1000 strokes : +- 2.0 Check tolerance
7.40000	cm3/1000s. : + 5.0
cm3/1000s. : 7.0 +	Spreed
Rated speed rpm : 600	Tolerance
Rated speed rpill . Oob	cm3/1000 strokes : 8.0
Del. quantity	Check tolerance
cm3/1000 strokes : 290.0	cm3/1000s. : 12.0
T	CHD7 10003 (2.0
Tolerance	
cm3/1000 strokes : +- 2.0	RATED SPEED
tillor rood strokes	NATED OF LED
Check tolerance	
cm3/1000s. : + 5.0	control lever
0.000	position degree : 301.0
Spreed	tolerance degree : +- 4.0
Tolerance	total allocation and
cm3/1000 strokes : 8.0	rack travel mm : -1.00
1107 1000 311 0803	Rated speed rpm : 1070
Check tolerance	Tolerance 1/min : +- 5
cm3/1000s. : 12.0	Total dilac Militia
. 12.6	rack travel mm : -9.30
Rated speed rpm : 300	Rated speed rpm : 1205
Added Speed (pill : 500	Tolerance 1/min : +- 15
Rack travel in mm: -8.20	rocerance mann
Tolerance mm : + 0.20	rack travel mm : -12.85
Del. quantity	Tolerance mm : + 0.55
cm3/1000 strokes : 31.0	Rated speed rpm : 1350
Tolerance +	nacea opeca i più i i ioso
cm3/1000 strokes : + 2.5	
Check tolerance	LOW IDLE
cm3/1000s. : +- 5.0	2011 3022
Spreed	
Tolerance	control lever
cm3/1000 strokes : 6.0	position degree : 247.0
Check tolerance	tolerance degree : +- 4.0
cm3/1000s. : 10.0	To to, and alog, or the state of the
1	Testing:
1	
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 300
WITH GOVERNOR	rack travel mm : -8.20
WELL GOAPINION	Tolerance mm : + 0.10
1	TO CO. WITOU IMIT
	Rated speed rpm : 200
GUIDE SLEEVE POSITION	open i pin i too
	CRT mm max. : < −6.80
Rated speed rpm : 1190	
Tated operation 1 1170	Rated speed rpm : 365
Rack travel in mm: 13.20	- Adda opoda i piii i oos
Tolerance mm : + 1.30	
TOTAL SERVICE	

		+ Aneroid pressure
TORQUE CONTROL		+ Rated speed rpm : 600 + Del. quantity
Rated speed rpm	: 600	cm3/1000 strokes : 159.0 Tolerance
Rated speed rpm Tolerance mm		cm3/1000 strokes : + 5.0 Check tolerance
Rated speed rpm		cm3/1000s. : + 8.0 Spreed.
rack travel mm Tolerance mm		Tolerance cm3/1000 strokes : 8.0
TOTAL GIRLS	0.10	Check tolerance
ANEROID/ALTITUDE		+
COMPENSATOR TEST		+ Aneroid pressure + hPa : -
SETTING		+ Rated speed rpm : 500 + Del. quantity
Rated speed rpm	: 500	t cm3/1000 strokes : 167.0 Tolerance
Pressure hPa		cm3/1000 strokes : +- 1.0 Check tolerance
MEASUREMENT		cm3/1000s. : +- 4.0
Pressure hPa	: -	<del></del>
Rated speed rpm		+ BREAKAWAY
rack travel mm Tolerance mm	: -3.80 : +- 0.30	†
roterance nm	: 0.30	Rack travel in mm: -1.00
Rated speed rpm	: 500	Rated speed rpm : 1070 Tolerance 1/min : + 5
Pressure hPa	: 240	+
rack travel mm	: -2.60	+
Tolerance mm	: +- 0.20	+ STARTING FUEL DELIVERY
Pressure hPa	: 480	
rack: travel mm	: -0.75	Del. quantity
Tolerance mm	: +- 0.05	+ cm3/1000 strokes : 160.0 + Tolerance
CTART CUT OUT		
START CUT-OUT		+ Check tolerance + cm3/1000S. : +- 14.0
Rated speed rpm Check		‡
speed 1/min	: < 215	
FUEL DELIVERY CHA	ARACTERISTICS	LOW IDLE
Ananaid annesses		+ Rated speed rpm : 300 + rack travel mm : -8.20
Aneroid pressure hPa	: 1000	+ rack travel mm : -8.20 + Tolerance mm : + 0.20
Rated speed rpm		+ Del. quantity
Del. quantity		+ cm3/1000 strokes : 31.0
cm3/1000 strokes	: 270.0	+ Tolerance
Tolerance	/ 0	- cm3/1000 strokes : +- 2.5
cm3/1000 strokes Check tolerance	: +- 4.0	+ Check tolerance + cm3/1000s. : +- 5.0
cm3/1000s.	: + 7.0	Spreed
		+

Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : 6.0

: 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 04.09.95 Test oil : ISO 4113

Combination No. : 0 402 846 054

Injection pump

Pump designation : PE6P120A320RS8017 EP type number : 0 412 826 018

Governor

Governer design. : RQV300...1100PA1017

: -1

Governer no. : 0 421 814 023

Cust. part No. : 865811-P02 v. 06/93

Customer—spec. information Customer : PENTA

Motor : TWD 1030 ME

Power KW : 212.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.30

Check

tolerance \*NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 11.05
Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 205.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : + 4.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance \_\_

cm3/1000s. : 11.0

Rated speed rpm	: 300	<u>L</u>
nated opeca i piii		Rated speed rpm : 1250
Rack travel in m	m: 4.30 -	
Tolerance mm	: +- 0.30	Rack travel in mm: 10.00
Del. quantity	-	Tolerance mm : + 2.00
cm3/1000 strokes	: 19.0	
Tolerance		
cm3/1000 strokes	: <del>+-</del> 2.5	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance		
cm3/1000s.	: <del>+-</del> 5.0 -	Rated speed rpm : 750
Spreed	•	Aneroid pressure
Tolerance	-	hPa : 1200
cm3/1000 strokes	: 5.0 -	Del. quantity
Check tolerance		cm3/1000 strokes : 205.0
cm3/1000s.		Tolerance
		cm3/1000 strokes : + 1.0
		Check tolerance
(B) SETTING OF I	NJECTTON PLIMP -	- cm3/1000s. : +- 4.0
WITH GOVERNOR		Spreed
ATTIL GOVERNOON		Tolerance
		cm3/1000 strokes : 8.0
GUIDE SLEEVE TRA	VEI	Check tolerance
COTAL DEFENC INV.	♥ tu-tu-	cm3/1000s. : 11.0
Rated speed rpm	: 300	L
guide sleeve	. 500	
travel mm	: 1.19	RATED SPEED
Tolerance mm	: + 0.25	I MATEU SPEED
ioterance imi	0.2	
Rated speed rpm	: 1137	r - control lever
	. 1131	position degree : 58.0
guide sleeve travel mm	: 8.19	tolerance degree : + 4.0
		toterance degree : +- 4.0
Tolerance mm	: 1 0.2	- control lever
Datad amand was	: 816	
Rated speed rpm	: 010	position degree : 114.0 tolerance degree : +- 4.0
guide sleeve	: 5.27	toterance degree : +- 4.0
travel mm		rack travel mm : 10.05
Tolerance mm	: ← 0.25	
D-4-4	. 705	Rated speed rpm : 1125
Rated speed rpm	: 385	- Tolerance 1/min : +- 5
guide sleeve	. 100	nock travel / 00
travel mm	: 1.98	rack travel mm : 4.00
Tolerance mm	: <b>←</b> 0.25	Rated speed rpm : 1210
Onderd amount and	. /25	Tolerance 1/min : + 15
Rated speed rpm	: 435	0.50
guide sleeve	. 3/5	rack travel mm : 0.50
travel mm	: 2.45	Tolerance mm : + 0.50
Tolerance mm	: <del>+-</del> 0.25	- Rated speed rpm : 1320
Dada d 1	. 570	•
Rated speed rpm	: 530	LOUTING
guide sleeve	7 14	LOW IDLE
travel mm	3.11	
Tolerance mm	: <b>←</b> 0.25	
<b>6-4-4</b>	1/00	control lever
Rated speed rpm	: 1400	position degree : 80.0
guide sleeve	14.50	- tolerance degree : +- 4.0
travel mm	: 11.50	
Tolerance mm	: + 0.50 +	- control lever
	†	- position degree : 15.0
		- tolerance degree : +- 4.0
GUIDE SLEEVE POSI	.110N <del> </del>	-

## Testing:

Rated speed rpm : 300 rack travel mm : 4.30 Tolerance mm : + 0.30

Rated speed rpm : 200

CRT mm min. :> 6.00

Rated speed rpm : 330

#### TORQUE CONTROL

Rated speed rpm : 750 rack travel mm : 11.05 Tolerance mm : + 0.05

# ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 11.05
Tolerance mm : + 0.05

#### **MEASUREMENT**

Pressure hPa : Rated speed rpm : 500
rack travel mm : 7.80
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 780 rack travel mm : 2.90 Tolerance mm : +- 0.20

Pressure hPa : 300 rack travel mm : 0.25 Tolerance mm : + 0.05

# FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : Rated speed rpm : 700
Del. quantity

cm3/1000 strokes : 132.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

#### BREAKAWAY

Rack travel in mm: 10.05
Rated speed rpm: 1125
Tolerance 1/min: + 5

# LOW IDLE

Rated speed rpm 300 4.30 rack travel mm Tolerance mm 0.30 Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1000 strokes 2.5 Check tolerance cm3/1000s. 5.0 Spreed Tolerance 5.0 cm3/1000 strokes : Check tolerance 8.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 06.09.95 Test oil : ISO 4113

Combination No. : 0 402 846 064

Injection pump

Pump designation : PE6P12OA32ORS8030 EP type number : 0 412 826 030

Governor

Governer design. : RQV300...1100PA1017

: -2

Governer no. : 0 421 814 102

Cust. part No. : 3825107-P03

Customer—spec. information Customer : PENTA

Motor : TWD 1230 ME

Power KW : 275.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance \*NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 11.80 Tolerance mm: + 0.05

Del. quantity

cm3/1000 strokes : 275.0

clip/1000 strokes . 213

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

Check tolerance

cm3/1000s. : + 4.0

Spreed

Tolerance

cm3/1000 strokes :

7.0

Check tolerance

cm3/1000s. :

11.0

Det. quantity cm3/1000 strokes : 20.0 Tolerance cm3/1000 strokes : 4.5 Check toterance cm3/1000s. : ← 5.0 Spreed Tolerance cm3/1000s. : ← 5.0 Spreed Tolerance cm3/1000s. : ← 5.0 Check toterance cm3/1000s. : ← 5.0 Check toterance cm3/1000s. : ← 5.0 Check toterance cm3/1000s. : ← 5.0 Check toterance cm3/1000s. : ← 5.0 Check toterance cm3/1000s. : ← 5.0 Check toterance cm3/1000s. : ← 5.0 Check toterance cm3/1000s. : ← 5.0 CHECK toterance cm3/1000s. : ← 5.0 CHECK toterance cm3/1000s. : ← 5.0 CHECK toterance cm3/1000s. : ← 5.0 CHECK toterance cm3/1000s. : ← 5.0 CHECK toterance cm3/1000s. : ← 5.0 CHECK toterance cm3/1000s. : ← 5.0 CHECK toterance cm3/1000s. : ← 5.0 CHECK toterance cm3/1000s. : ← 5.0 CHECK toterance cm3/1000s. : ← 5.0 CHECK toterance cm3/1000s. : ← 5.0 CHECK toterance cm3/1000s. : ← 5.0 CHECK toterance cm3/1000s. : ← 5.0 CHECK toterance cm3/1000s. : ← 5.0 CHECK toterance cm3/1000s. : ← 5.0 CHECK toterance cm3/1000s. : ← 5.0 CHECK toterance cm3/1000s. : ← 5.0 CHECK toterance cm3/1000s. : ← 5.0 CHECK toterance cm3/1000s. : ← 5.0 CHECK toterance cm3/1000s. : ← 7.0 CHECK toterance cm3/1000s. : ← 5.0 CHECK toterance cm3/1000s. : ← 6.0 CHECK toterance cm3/1000s. : ← 6.0 CHECK toterance cm3/1000s. : ← 6.0 CHECK toterance cm3/1000s. : ← 6.0 CHECK totera			1
cm3/1000 strokes : 20.0       Tolerance mm : + 3.00         cm3/1000 strokes : + 2.5       FULL LOAD DELIVERY AT FULL LOAD STOP         cm3/1000 strokes : + 5.0       Aperoid pressure         Spreed Tolerance cm3/1000s.       10.0         cm3/1000 strokes : 6.0       Aperoid pressure         Check tolerance cm3/1000s.       10.0         CM SETTING OF INJECTION PUMP WITH GOVERNOR       Cm3/1000 strokes : 275.0         COLIDE SLEEVE TRAVEL       Tolerance cm3/1000 strokes : + 4.0         Rated speed rpm : 325       Spreed Tolerance cm3/1000s. : + 4.0         Spreed Tolerance mm : + 0.25       Tolerance mm : + 0.25         Rated speed rpm : 325       Rated speed rpm : 325         Rated speed rpm : 1182       RATED SPEED         Rated speed rpm : 8.71       Tolerance mm : + 0.25         Rated speed rpm : 834       control lever position degree : + 4.0         Tolerance mm : + 0.25       Tolerance degree : + 4.0         Rated speed rpm : 385       Rated speed rpm : 1070         Rated speed rpm : 385       Rated speed rpm : 1070         Rould sleeve travel mm : 1.98       Tolerance degree : + 4.0         Tolerance mm : + 0.25       Rated speed rpm : 1180         Rated speed rpm : 530       Rated speed rpm : 1300         Rated speed rpm : 500       Rated speed rpm : 1300 <t< td=""><td>Del quantity</td><td></td><td>Rack travel in mm · 9 00</td></t<>	Del quantity		Rack travel in mm · 9 00
Tolerance cm3/1000 strokes : + 2.5 check tolerance cm3/1000 strokes : + 5.0 spreed Tolerance cm3/1000 strokes : 6.0 check tolerance cm3/1000 strokes : 6.0 check tolerance cm3/1000 strokes : 10.0 cm3/1000 strokes : 275.0 Tolerance cm3/1000 strokes : 275.0 Tolerance cm3/1000 strokes : 275.0 Tolerance cm3/1000 strokes : 275.0 Tolerance cm3/1000 strokes : 275.0 Tolerance cm3/1000 strokes : - 1.9 check tolerance cm3/1000 strokes : - 1.9 check tolerance cm3/1000 strokes : - 7.0 check tolerance cm3/1000 strokes : 7.0 check tolerance cm3/1000s. : + 4.0 spreed Tolerance cm3/1000s. : + 4.0 spreed Tolerance cm3/1000s. : 11.0 cm		: 20.0	
Check tolerance cm3/1000s         : + 5.0         Full LOAD DELIVERY AT FULL LOAD STOP Rated Speed rpm         : 700           Spreed Tolerance cm3/1000 strokes : 6.0         Aperoid pressure hPa in the paint in the pai	Tolerance		+
cm3/1000S.       : → 5.0         Spreed       Tolerance       : 1500         cm3/1000 strokes       : 6.0       : 1500         cm3/1000S.       : 10.0       : 275.0         cm3/1000S.       : 10.0       : 1500         pel. quantity       : 275.0         cm3/1000S.       : 275.0         Tolerance       : 371000 strokes       : 275.0         Tolerance       : 371000 strokes       : 4.0         Spreed       Tolerance       : 7.0         Check tolerance       : 371000 strokes       : 7.0         Check tolerance       : 371000 strokes       : 7.0         Check tolerance       : 371000 strokes       : 7.0         Check tolerance       : 371000 strokes       : 7.0         Check tolerance       : 371000 strokes       : 7.0         Check tolerance       : 371000 strokes       : 7.0         Check tolerance       : 371000 strokes       : 7.0         Check tolerance       : 371000 strokes       : 7.0         Check tolerance       : 371000 strokes       : 7.0         Check tolerance       : 371000 strokes       : 7.0         Check tolerance       : 371000 strokes       : 7.0         Check tolerance <td< td=""><td></td><td>: <del>+-</del> 2.5</td><td></td></td<>		: <del>+-</del> 2.5	
Spreed   Tolerance   Cm3/1000 strokes : 6.0   Check tolerance   Cm3/1000 strokes : 6.0   Check tolerance   Cm3/1000 strokes : 10.0   Cm3/1000 strokes : 275.0   Tolerance   Cm3/1000 strokes : 275.0   Tolerance   Cm3/1000 strokes : 4.0   Check tolerance   Cm3/1000 strokes : 4.0   Spreed   Tolerance   Cm3/1000 strokes : 7.0   Check tolerance   Cm3/1000 strokes : 7.0		5.0	+ FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance cm3/1000 strokes : 6.0   hPa		: +- 5.0	Pated speed row . 700
cm3/1000 strokes : 6.0       hPa			
Del. quantity   Control		: 6.0	
Tolerance	Check tolerance		Del. quantity
(B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  GUIDE SLEEVE TRAVEL  GUIDE SLEEVE TRAVEL  Rated speed rpm : 325 guide sleeve travel mm : 1.41 Tolerance mm : + 0.25  Rated speed rpm : 834 guide sleeve travel mm : 5.40 Tolerance mm : + 0.25  Rated speed rpm : 385 guide sleeve travel mm : 5.40 Tolerance mm : + 0.25  Rated speed rpm : 385 guide sleeve travel mm : 5.40 Tolerance mm : + 0.25  Rated speed rpm : 385 guide sleeve travel mm : 1.98 Tolerance mm : + 0.25  Rated speed rpm : 435 guide sleeve travel mm : 2.45 Tolerance mm : + 0.25  Rated speed rpm : 530 guide sleeve travel mm : - 0.25  Rated speed rpm : 530 guide sleeve travel mm : - 0.25  Rated speed rpm : 530 guide sleeve travel mm : - 0.25  Rated speed rpm : 1400 guide sleeve travel mm : 11.50 Tolerance mm : + 0.50  GUIDE SLEEVE POSITION   CMATCH Colerance cms / 4.0  Check tolerance cm3/1000S. : + 4.0  RATED SPEED  RATED SPEED  Control lever position degree : 46.0  Tolerance degree : + 4.0  Control lever position degree : 112.0  Tolerance degree : + 4.0  Tolerance mm : + 0.25  Rated speed rpm : 1300  Control lever position degree : 82.0  Tolerance degree : + 4.0  Control lever position degree : 82.0  Tolerance degree : + 4.0  Control lever position degree : 82.0  Tolerance degree : + 4.0  Control lever position degree : 82.0  Tolerance degree : + 4.0  Control lever position degree : 82.0  Tolerance degree : + 4.0  Control lever position degree : 82.0  Tolerance degree : + 4.0	cm3/1000s.	: 10.0	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 325 guide sleeve travel mm : + 0.25  Rated speed rpm : 834 guide sleeve travel mm : + 0.25  Rated speed rpm : 385 guide sleeve travel mm : + 0.25  Rated speed rpm : 385 guide sleeve travel mm : + 0.25  Rated speed rpm : 385 guide sleeve travel mm : + 0.25  Rated speed rpm : 385 guide sleeve travel mm : 1.98 Tolerance mm : + 0.25  Rated speed rpm : 435 guide sleeve travel mm : 2.45 Tolerance mm : + 0.25  Rated speed rpm : 330 guide sleeve travel mm : 0.25  Rated speed rpm : 435 guide sleeve travel mm : 0.25  Rated speed rpm : 435 Tolerance mm : + 0.25  Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 530 guide sleeve travel mm : 2.45 Tolerance mm : + 0.25  Rated speed rpm : 1400 guide sleeve travel mm : 11.50 Tolerance mm : + 0.50  GUIDE SLEEVE POSITION			
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Rated speed rpm : 1250 + Testing:		-	
<del>†</del>	Rated speed rpm	: 1250	Testing:
			<b>†</b>

325 Rated speed rpm : rack travel mm 4.60 : + 0.30Tolerance mm 225 Rated speed rom : > 7.20 CRT mm min. Rated speed rpm 360 TORQUE CONTROL Rated speed rpm 700 rack travel nm 11.80 Tolerance No : ← 0.05 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm 500 1500 Pressure hPa rack travel mm 11.80 : + 0.05Tolerance mm **MEASUREMENT** Pressure hPa 500 Rated speed rpm 7.90 rack travel mm : + 0.20 Tolerance mm 500 Rated speed rpm 980 Pressure hPa rack travel mm 3.30 : +- 0.20 Tolerance mm 380 Pressure hPa 0.25 rack travel mm Tolerance mm : **←** 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 700 Rated speed rpm : Del. quantity cm3/1000 strokes : 161.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance

: +- 4.0

BREAKAWAY Rack travel in mm : 10.80 Rated speed rpm : 1070 Tolerance 1/min STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm 8.00 Tolerance mm : + - 0.20Del. quantity cm3/1000 strokes : 125.0 Tolerance cm3/1000 strokes : +- 21.0Check tolerance cm3/1000s. : + 25.0LOW IDLE Del. quantity cm3/1000 strokes : 20.0 Tolerance cm3/1000 strokes : +-2.5 Check tolerance cm3/1000s. 5.0 : +--Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 10.0

End of test specification sheet

cm3/1000s.

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 01.09.95 Edition : ISO 4113 Test oil

Combination No. : 0 402 846 070

Injection pump

Pump designation : PE6P120A320RS8040 EP type number : 0 412 826 034

Governor

Governer design. : RQV300...1050PA1247

Governer no. : 0 421 814 163

: 11031221 Cust. part No.

: -P02v 030895

Customer-spec. information

Customer : VME

: TD 103 KCE Motor

: 186.0 Power KW

# TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : Tolerance bar : + 0.1

Overflow quantity

min. L/h : 165 Tolerance L/h : + 10.0

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

208.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

: 4.00 Prestroke mm : + - 0.05Tolerance mm

test only : + 0.10

Rack travel in mm: 12.00 Tolerance mm : + 1.00

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.75

Start of delivery mark

Barrel no. :

## BASIC SETTING

Rated speed rpm : 500

Rack travel in mm: 11.80 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 318.0

		+ Tolerance mm : + 0.50
Tolerance	4.4	+
cm3/1000 strokes	: +- 1.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s.	: +- 4.0	Rated speed rpm : 1220
Spreed		Rack travel in mm: 11.00
Tolerance		+ Tolerance mm : + 2.00
cm3/1000 strokes	: 8.0	<u> </u>
Check tolerance		FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s.	: 11.0	+
		+ Rated speed rpm : 500
Rated speed rpm	: 320	+ Aneroid pressure + hPa : 1500
Rack travel in m	m: 5.20	† Del. quantity
Tolerance mm		+ cm3/1000 strokes : 318.0
Del. quantity	: +- 0.30	+ Tolerance
	. 50.0	
cm3/1000 strokes	: 50.0	+ cm3/1000 strokes : +- 1.0
Tolerance	25	+ Check tolerance
cm3/1000 strokes	: +- 2.5	+ cm3/1000s. : +- 4.0
Check tolerance	5.0	+ Spreed
cm3/1000s.	: +- 5.0	+ Tolerance
Spreed		+ cm3/1000 strokes : 8.0
Tolerance	5.0	+ Check tolerance
cm3/1000 strokes	: 5.0	+ cm3/1000s. : 11.0
Check tolerance	2.2	†
cm3/1000s.	: 8.0	DATE OF THE
		+ RATED SPEED
(D) CETTING OF T	LICETION OUND	†
(B) SETTING OF IN	NJECTION PUMP	T control lever
WITH GOVERNOR		
		+ position degree : 45.0
GUIDE SLEEVE TRAN	/FI	tolerance degree : + 4.0
GOINE OFFICE LIVE	,	control lever
Rated speed rpm	: 320	position degree : 112.0
guide sleeve		tolerance degree : + 4.0
travel mm	: 1.34	totter and degree .
		- <del></del>
iniaranca mm		t rack travel mm · 9.80
Tolerance mm	: + 0.20	rack travel mm : 9.80
	: <b>←</b> 0.20	+ Rated speed rpm : 1100
Rated speed rpm		
Rated speed rpm guide sleeve	: + 0.20 : 1112	Rated speed rpm : 1100 Tolerance 1/min : + 5
Rated speed rpm guide sleeve travel mm	: ← 0.20 : 1112 : 7.91	Rated speed rpm : 1100 Tolerance 1/min : + 5 rack travel mm : 4.00
Rated speed rpm guide sleeve	: + 0.20 : 1112	Rated speed rpm : 1100 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1180
Rated speed rpm guide sleeve travel mm Tolerance mm	: ← 0.20 : 1112 : 7.91 : ← 0.15	Rated speed rpm : 1100 Tolerance 1/min : + 5 rack travel mm : 4.00
Rated speed rpm guide sleeve travel mm Tolerance mm	: ← 0.20 : 1112 : 7.91	Rated speed rpm : 1100 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: ← 0.20 : 1112 : 7.91 : ← 0.15 : 806	Rated speed rpm : 1100 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15  rack travel mm : 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: ← 0.20 : 1112 : 7.91 : + 0.15 : 806 : 5.20	Rated speed rpm : 1100 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: ← 0.20 : 1112 : 7.91 : ← 0.15 : 806	Rated speed rpm : 1100 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15  rack travel mm : 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: ← 0.20 : 1112 : 7.91 : ← 0.15 : 806 : 5.20 : ← 0.25	Rated speed rpm : 1100 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: ← 0.20 : 1112 : 7.91 : + 0.15 : 806 : 5.20	Rated speed rpm : 1100 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1250
Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	: ← 0.20 : 1112 : 7.91 : + 0.15 : 806 : 5.20 : ← 0.25 : 530	Rated speed rpm : 1100 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: ← 0.20 : 1112 : 7.91 : + 0.15 : 806 : 5.20 : + 0.25 : 530 : 3.11	Rated speed rpm : 1100 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1250
Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	: ← 0.20 : 1112 : 7.91 : + 0.15 : 806 : 5.20 : ← 0.25 : 530	Rated speed rpm : 1100 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1250  LOW IDLE
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	: ← 0.20 : 1112 : 7.91 : ← 0.15 : 806 : 5.20 : ← 0.25 : 530 : 3.11 : ← 0.25	Rated speed rpm : 1100 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1250  LOW IDLE  control lever
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: ← 0.20 : 1112 : 7.91 : + 0.15 : 806 : 5.20 : + 0.25 : 530 : 3.11	Rated speed rpm : 1100 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1250  LOW IDLE  control lever position degree : 84.0
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: ← 0.20 : 1112 : 7.91 : ← 0.15 : 806 : 5.20 : ← 0.25 : 530 : 400	Rated speed rpm : 1100 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1250  LOW IDLE  control lever
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: ← 0.20 : 1112 : 7.91 : ← 0.15 : 806 : 5.20 : ← 0.25 : 530 : 3.11 : ← 0.25	Rated speed rpm : 1100 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1250  LOW IDLE  control lever position degree : 84.0

: 17.0 : +- 4.0
: 320 : 5.20 : ← 0.10
: 220
: > 7.80
: 380
: 500 : 11.80 : + 0.05
: 1050 : 10.80 : + 0.10
: 720 : 11.10 : + 0.15
: 500 : 1500 : 11.80 : + 0.05
: - : 500 : 8.70 : + 0.10
: 500
: 500 : 840 : 2.60 : + 0.20

<del></del>	
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1500 : 1050
Del. quantity	. 1050
cm3/1000 strokes	: 225.0
Tolerance cm3/1000 strokes	: +- 3.0
Check tolerance cm3/1000s.	: +- 6.0
CIID/TUUU3.	: 6.0
Aneroid pressure	
hPa Rated speed rpm	500
Del. quantity	
cm3/1000 strokes	: 212.0
Tolerance cm3/1000 strokes	: <del>+</del> 1.0
Check tolerance	
cm3/1000s.	: +- 4.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 1100
Rated speed rom	: 1100
Rated speed rpm Tolerance 1/min  LOW IDLE  Rated speed rpm rack travel mm	: 1100 : + 5 : 4 5
Rated speed rpm Tolerance 1/min  LOW IDLE Rated speed rpm	: 1100 : + 5 : 320
Rated speed rpm Tolerance 1/min  LOW IDLE  Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes	: 1100 : + 5 : 4 5
Rated speed rpm Tolerance 1/min  LOW IDLE  Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1100 : + 5 : 320 : 5.20 : + 0.30
Rated speed rpm Tolerance 1/min  LOW IDLE  Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 1100 : + 5
Rated speed rpm Tolerance 1/min  LOW IDLE  Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 1100 : + 5
Rated speed rpm Tolerance 1/min  LOW IDLE  Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 1100 : + 5

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 01.09.95 : ISO 4113

Combination No.

: 0 402 946 012

Injection pump

Pump designation : FES6P120A320RS8031

EP type number

: 0 412 926 022

Governor

Governer design. : RQV300...1000PA1181K

Governer no.

: 0 421 815 975

Cust. part No. : CCEP 5145A 66-234

Customer-spec. information

: RVI Customer

Motor

: MIDR 063540 P 41

Power KW

: 300.0

# TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. °C

Tolerance °C : + 2.0

Overflow valve

: 2 417 413 078

Inlet press. bar :

2.5

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar

Test lines

: 1 680 750 089

Outside diameter :

8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 3.65 Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 11.00 : +- 0.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 4

Phasina : 0-60-120-180-240

: -300

Tolerance : + - 0.30

Check

tolerance "NW : + 0.50

Start of delivery mark

1 Barrel no.

Beginning of delivery differende

betw. rack trav.

21.00

and maximum rack

19.50 travel

Difference ° CS 2.75

BASIC SETTING

Rated speed rpm 1000

Del. quantity

cm3/1000 strokes : 356.0

Tolerance	1	5
cm3/1000 strokes : +- 1	· · · · · · · · · · · · · · · · · · ·	speed rpm : 530
Check tolerance		: 3.71
		eance mm : + 0.25
	+	4750
Spreed Tolerance		speed rpm : 1350
	0 + trave	esleeve Elmm : 13.50
		eance mm : + 0.50
Check tolerance	_	
cm3/1000s. : 9	.0	SLEEVE POSITION
Rated speed rpm : 325	1 90105	SEEENE LOSTITON
nated operation.	Rated	speed rpm : 1220
Rack travel in mm : -8.0		
Tolerance mm : + 0.7		travel in mm : 12.00 ance mm : +- 2.00
Del. quantity cm3/1000 strokes : 34		ance mm : +- 2.00
Tolerance	·	
cm3/1000 strokes : + 2	.O + FULL	LOAD DELIVERY AT FULL LOAD STOP
Check tolerance cm3/1000s. : +- 6	O Pated	speed rpm : 1000
Spreed	· · · · · · · · · · · · · · · · · · ·	speed rpm : 1000 id pressure
Tolerance	+ hPa	: 1100
cm3/1000 strokes : 8		quantity
Check tolerance : 12.		000 strokes : 356.0
CR57 (UUUS. : 12.		000 strokes : + 1.0
		tolerance
(B) SETTING OF INJECTION PO	· ·	000s. : +- 4.0
WITH GOVERNOR	+ Spree + Toler	
		000 strokes : 5.0
GUIDE SLEEVE TRAVEL	Check	tolerance
700	+ cm3/1	000s. : 9.0
Rated speed rpm : 300 guide sleeve	İ	
travel mm : 1.4	7 RATED	SPEED
Tolerance mm : + 0.2		
	+ .	
0.1.1.1		_1
Rated speed rpm : 1082		ol lever
guide steeve	+ posit	ion degree : 295.0
guide sleeve	posit toler	ion degree : 295.0 ance degree : +- 4.0
guide steeve travel mm : 9.3 Toterance mm : + 0.3	posit toler rack	ion degree : 295.0 ance degree : + 4.0 travel mm : -1.00
guide steeve travel mm : 9.3 Toterance mm : + 0.3 Rated speed rpm : 797	posit toler 5 rack	ion degree : 295.0 ance degree : + 4.0 travel mm : -1.00 speed rpm : 1065
guide steeve travel mm : 9.3 Toterance mm : + 0.3	posit toler rack Rated	ion degree : 295.0 ance degree : + 4.0 travel mm : -1.00
guide sleeve travel mm : 9.3 Tolerance mm : + 0.3 Rated speed rpm : 797 guide sleeve	posit toler rack Rated Toler rack	ion degree : 295.0 ance degree : + 4.0  travel mm : -1.00 speed rpm : 1065 ance 1/min : + 5  travel mm : -9.20
guide steeve travel mm : 9.3 Tolerance mm : + 0.3 Rated speed rpm : 797 guide steeve travel mm : 6.0 Tolerance mm : + 0.3	posit toler rack Rated Toler rack Rated Rated	ion degree : 295.0 ance degree : + 4.0  travel mm : -1.00 speed rpm : 1065 ance 1/min : + 5  travel mm : -9.20 speed rpm : 1180
guide steeve travel mm : 9.3 Tolerance mm : + 0.3 Rated speed rpm : 797 guide steeve travel mm : 6.0 Tolerance mm : + 0.3 Rated speed rpm : 383	posit toler rack Rated Toler rack Rated Rated	ion degree : 295.0 ance degree : + 4.0  travel mm : -1.00 speed rpm : 1065 ance 1/min : + 5  travel mm : -9.20
guide steeve travel mm : 9.3 Tolerance mm : + 0.3 Rated speed rpm : 797 guide steeve travel mm : 6.0 Tolerance mm : + 0.3	posit toler.  rack rack rack rack rack rack rack rack	ion degree : 295.0 ance degree : + 4.0  travel mm : -1.00 speed rpm : 1065 ance 1/min : + 5  travel mm : -9.20 speed rpm : 1180
guide steeve travel mm : 9.3 Tolerance mm : + 0.3 Rated speed rpm : 797 guide steeve travel mm : 6.0 Tolerance mm : + 0.3 Rated speed rpm : 383 guide steeve	posit toler.  rack rack rack rack rack rack rack rack	ion degree : 295.0 ance degree : + 4.0  travel mm : -1.00 speed rpm : 1065 ance 1/min : + 5  travel mm : -9.20 speed rpm : 1180 ance 1/min : + 15  travel mm : -12.90 ance mm : + 0.50
guide sleeve travel mm : 9.3 Tolerance mm : + 0.3 Rated speed rpm : 797 guide sleeve travel mm : 6.0 Tolerance mm : + 0.3 Rated speed rpm : 383 guide sleeve travel mm : 2.4 Tolerance mm : + 0.2	posit toler.  rack rack rack rack rack rack rack rack	ion degree : 295.0 ance degree : + 4.0  travel mm : -1.00 speed rpm : 1065 ance 1/min : + 5  travel mm : -9.20 speed rpm : 1180 ance 1/min : + 15  travel mm : -12.90
guide sleeve travel mm : 9.3 Tolerance mm : + 0.3 Rated speed rpm : 797 guide sleeve travel mm : 6.0 Tolerance mm : + 0.3 Rated speed rpm : 383 guide sleeve travel mm : 2.4 Tolerance mm : + 0.2 Rated speed rpm : 433	posit toler.  rack rack rack rack rack rack rack rack	ion degree : 295.0 ance degree : + 4.0  travel mm : -1.00 speed rpm : 1065 ance 1/min : + 5  travel mm : -9.20 speed rpm : 1180 ance 1/min : + 15  travel mm : -12.90 ance mm : + 0.50
guide sleeve travel mm : 9.3 Tolerance mm : + 0.3 Rated speed rpm : 797 guide sleeve travel mm : 6.0 Tolerance mm : + 0.3 Rated speed rpm : 383 guide sleeve travel mm : 2.4 Tolerance mm : + 0.2 Rated speed rpm : 433 guide sleeve travel mm : 433 guide sleeve travel mm : 2.8	posit tolers rack Rated Tolers Rated Tolers Rated Tolers Rated Tolers Rated Tolers LOW II	ion degree : 295.0 ance degree : + 4.0  travel mm : -1.00 speed rpm : 1065 ance 1/min : + 5  travel mm : -9.20 speed rpm : 1180 ance 1/min : + 15  travel mm : -12.90 ance mm : + 0.50 speed rpm : 1300
guide sleeve travel mm : 9.3 Tolerance mm : + 0.3 Rated speed rpm : 797 guide sleeve travel mm : 6.0 Tolerance mm : + 0.2 Rated speed rpm : 383 guide sleeve travel mm : 2.4 Tolerance mm : + 0.2 Rated speed rpm : 2.4 Tolerance mm : + 0.2	posit tolers rack Rated Tolers Rated Tolers Rated Tolers Rated Tolers Rated Tolers LOW II	ion degree : 295.0 ance degree : + 4.0  travel mm : -1.00 speed rpm : 1065 ance 1/min : + 5  travel mm : -9.20 speed rpm : 1180 ance 1/min : + 15  travel mm : -12.90 ance mm : + 0.50 speed rpm : 1300

		+	Tolerance mm
control lever position degree tolerance degree	: 253.0 : +- 4.0	‡	START CUT-OUT
Testing:		1	Rated speed r
Rated speed rpm rack travel mm Tolerance mm	: 325 : -8.00 : +- 0.10	1	speed 1/min
Rated speed rpm	: 200	‡	FUEL DELIVERY
CRT mm max.	: < -6.20	‡	Aneroid pressu hPa
Rated speed rpm	: 360	+	Rated speed report Del. quantity cm3/1000 strol
TORQUE CONTROL			Tolerance cm3/1000 strok Check tolerand
Rated speed rpm	: 1000	1	cm3/1000s.
Rated speed rpm rack travel mm Tolerance mm	: 600 : -0.55 : + 0.10	+	Aneroid pressum hPa Rated speed rp Del. quantity
Rated speed rpm rack travel mm Tolerance mm	<b>:</b> −0.35	<del> </del>	cm3/1000 strok Tolerance cm3/1000 strok
Rated speed rpm rack travel mm Tolerance mm	: 350 : −1.80 : ← 0.25	† + +	Check tolerand cm3/1000s.
		‡	BREAKAWAY
ANEROID/ALTITUDE COMPENSATOR TEST		+ + +	Rack travel ir Rated speed rp Tolerance 1/mi
SETTING		+	roter drive Trian
Rated speed rpm Pressure hPa Tolerance mm	: 1000 : 1100 : + 0.10	† † †	STARTING FUEL
MEASUREMENT		Ŧ	Rated speed rp
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: -000 : -4.60 : + 0.20	† † †	Tolerance mm Del. quantity cm3/1000 strok Tolerance cm3/1000 strok Check tolerance
Rated speed rpm	: 1000	Ŧ	cm3/1000s.
Pressure hPa rack travel mm Tolerance mm	: 280 : -3.70 : + 0.20	<del>+</del> +	
Pressure hPa	: 560	‡	LOW IDLE
rack travel mm	: -2.30	+	Rated speed rp

Tolerance mm	: <b>-</b> 0.05
START CUT-OUT	
Rated speed rpm	: < 240
Check speed 1/min	: < 260
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure	: 1100
hPa Rated speed rpm Del. quantity	
cm3/1000 strokes Tolerance	: 386.0
cm3/1000 strokes Check tolerance	: +- 3.0
cm3/1000s.	: +- 6.0
Aneroid pressure	: -
Rated speed rpm Del. quantity	: 500
cm3/1000 strokes Tolerance	
cm3/1000 strokes Check tolerance	
cm3/1000s.	: +- 4.0
BREAKAWAY	
Rack travel in mm	
Rated speed rpm Tolerance 1/min	: 1065 : +- 5
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100
rack travel mm Tolerance mm	: 20.25 : + 0.75
Del. quantity cm3/1000 strokes	: 190.0
Tolerance	: 190.0
cm3/1000 strokes Check tolerance	: +- 15.0
cm3/1000s.	: ← 19.0
LOW IDLE	
Rated speed rpm	: 325

rack travel mm	:		-8.00
Tolerance mm	:	+	0.20
Del. quantity			
cm3/1000 strokes	:		34.0
Tolerance			
cm3/1000 strokes	:	+-	2.0
Check tolerance			
cm3/1000s.	:	+	6.0
Spreed			
Tolerance			
cm3/1000 strokes	:		8.0
Check tolerance			
cm3/1000s.	:		12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.07.95 Test oil : ISO 4113

Combination No. : 0 402 946 014

Injection pump

Pump designation : PES6P12OA720LS8037 EP type number : 0 412 926 024

Governor

Governer design. : RQV250...1050PA1236K

Governer no. : 0 421 815 970

Cust. part No. : 1370101

Customer—spec. information Customer : SCANIA Motor : DSC1202

#### TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.40 Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.00 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.30

Check

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.50

Start of delivery blocking

Barrel no. : 6

# BASIC SETTING

Rated speed rpm : 775

Rack travel in mm : 14.05 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 330.0

Tolerance

cm3/1000 strokes : + 1.0

----

Check tolerance cm3/1000s. : +- 4.0	Rated speed rpm : 1170
Spreed - Tolerance - cm3/1000 strokes : 8.0 -	Rack travel in mm : 12.10 Tolerance mm : + 1.30
Check tolerance cm3/1000s. : 12.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 250	+ Rated speed rpm : 775 + Aneroid pressure - hPa : 1500
Rack travel in mm: 4.60	Del. quantity
Tolerance mm : +- 0.30	- cm3/1000 strokes : 330.0
Del. quantity - cm3/1000 strokes : 19.0 -	+ Tolerance + cm3/1000 strokes : +- 1.0
Tolerance	Check tolerance
cm3/1000 strokes : + 3.0 - Check tolerance	+ cm3/1000s. :+- 4.0 + Spreed
cm3/1000s. : +- 6.0	Tolerance
Spreed -	cm3/1000 strokes : 8.0
Tolerance - cm3/1000 strokes : 4.0 -	Check tolerance : 12.0
Check tolerance	- 123
cm3/1000s. : 8.0	RATED SPEED
-	NATED SPEED
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 63.0
GUIDE SLEEVE TRAVEL	tolerance degree : +- 4.0
	control lever
Rated speed rpm : 250 guide sleeve	position degree : 121.0 tolerance degree : + 4.0
travel mm : 1.79	toter ance degree 4.0
Tolerance mm : + 0.20 -	rack travel mm : 12.10
Rated speed rpm : 1116	- Rated speed rpm : 1095 - Tolerance 1/min : +- 5
guide sleeve	
travel mm : 10.09 Tolerance mm : + 0.15	rack travel mm : 4.00 Rated speed rpm : 1180
Toterance min : += 0.15	F Tolerance 1/min : +- 15
Rated speed rpm : 644	0.50
guide sleeve travel mm : 4.47	rack travel mm : 0.50 Tolerance mm : + 0.50
Tolerance mm : + 0.25	Rated speed rpm : 1300
Datad anad man a 200	
Rated speed rpm : 290 - guide sleeve -	- LOW IDLE
travel mm : 2.62	
Tolerance mm : + 0.25	control loven
Rated speed rpm : 1310	- control lever - position degree : 78.0
guide sleeve	tolerance degree : + 4.0
travel mm : 13.50 +	-
Tolonopoo mm $+$ $+$ $0.50$	control leven
Tolerance mm : + 0.50	- control lever - position degree : 20.0
Tolerance mm : + 0.50  GUIDE SLEEVE POSITION	- control lever - position degree : 20.0 - tolerance degree : +- 4.0

Testing:		+	
Rated speed rpm rack travel mm		START CUT-OUT	
Tolerance mm	: +- 0.30	Rated speed rpm :	< 170
Rated speed rpm		speed 1/min :	< 190
	: > 7.30	FUEL DELIVERY CHARA	CTERISTICS
Rated speed rpm	: 275	Aneroid pressure	4500
TORQUE CONTROL		hPa :	1500 650
Rated speed rpm rack travel mm	: 14.05	+ Del. quantity + cm3/1000 strokes : + Tolerance	
Tolerance mm		+ cm3/1000 strokes : + Check tolerance + cm3/1000s. :	
Rated speed rpm rack travel mm Tolerance mm	: 13.05	Aneroid pressure	+- 6.0
Rated speed rpm		+ hPa :	1500 1050
rack travel mm Tolerance mm	: 13.10	Del. quantity cm3/1000 strokes : Tolerance	
Rated speed rpm rack travel mm	: 10.80	cm3/1000 strokes : Check tolerance	
Tolerance mm	: + 0.30	- + cm3/1000s. :  Aneroid pressure	+- 6.0
ANEROID/ALTITUDE		+ hPa :	
COMPENSATOR TEST		+ Rated speed rpm : - Del. quantity	
SETTING		cm3/1000 strokes : Tolerance cm3/1000 strokes :	
Rated speed rpm Pressure hPa	: 775 : 1500	Aneroid pressure	13.0
rack travel mm Tolerance mm	: 14.05 : ← 0.10	+ hPa : + Rated speed rpm :	_ 50 <b>0</b>
MEASUREMENT		+ Del. quantity + cm3/1000 strokes : + Tolerance	192.0
Pressure hPa Rated speed rpm	: - : 775		+ 1.0
rack travel mm Tolerance mm			+- 4.0
Rated speed rpm	: 775	BREAKAWAY	
Pressure hPa rack travel mm Tolerance mm	: 300 : 9.80 : + 0.15	Rack travel in mm : Rated speed rpm : Tolerance 1/min :	12.10 1095 +- 5
Pressure hPa rack travel mm	: 610 : 11.50	+	-
Tolerance mm	: +- 0.05	STARTING FUEL DELIV	ERY

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : + 0.75

# LOW IDLE

Rated speed rpm 250 rack travel mm 4.60 Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 19.0 Tolerance 3.0 cm3/1000 strokes : +-Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. 8.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.08.95 Test oil : ISO 4113

Combination No. : 0 402 946 017

Injection pump

Pump designation : PE6P120A720RS8039 EP type number : 0 412 926 026

Governor

Governer design. : RQV250...950PA1243

Governer no. : 0 421 814 162

Cust. part No. : 1374808

Customer—spec. information Customer : SCANIA Motor : DSC 11.79

#### TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5
Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values \_\_\_\_\_

#### BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.15
Tolerance mm : + 0.05

test only  $: \leftarrow 0.10$ 

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.30

Check

tolerance °NW : + 0.50

Start of delivery blocking

Barrel no. : 1

#### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.90
Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 298.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed		Rack travel in mm : 10.90
Tolerance	+	Tolerance mm : +- 1.30
cm3/1000 strokes :	8.0	
Check tolerance		SILL LOAD DELTHEDY AT ELLE LOAD CTOD
cm3/1000s. :	12.0	FULL LOAD DELIVERY AT FULL LOAD STOP
(115) (1003).	12.0	Rated speed rpm : 700
Rated speed rpm :	250	Aneroid pressure
	+	hPa : 1500
Rack travel in mm :		Del. quantity
	+ 0.30	cm3/1000 strokes : 298.0
Del. quantity	21.0	Tolerance cm3/1000 strokes : +- 1.0
cm3/1000 strokes : Tolerance	71.0	Check tolerance
cm3/1000 strokes :	+- 3.0 <del>↓</del>	cm3/1000s. : +- 4.0
Check tolerance	+	Spreed
	+- 6.0	Tolerance
Spreed	+	cm3/1000 strokes : 8.0
Tolerance	†	Check tolerance
cm3/1000 strokes :	4.0	cm3/1000s. : 12.0
Check tolerance cm3/1000s. :	8.0	
CIIS7 10005.	3.0	RATED SPEED
	+	1111125 01 225
(B) SETTING OF INJE	CTION PUMP	
WITH GOVERNOR	+	control lever
	+	position degree : 51.0
		tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	1	control lever
Rated speed rpm :	250	position degree : 115.0
guide steeve	1	tolerance degree : + 4.0
travel mm :	1.02	_
Tolerance mm :	+ 0.20 +	rack travel mm : 10.90
Bakad award was	1000	Rated speed rpm : 995 Tolerance 1/min : +- 5
Rated speed rpm : guide sleeve	1008	Toterance Timin : +- 3
travel mm :	8.27	rack travel mm : 4.00
	+ 0.15	Rated speed rpm : 1125
:	+	Tolerance 1/min : + 15
Rated speed rpm :	733 +	
guide sleeve	†	rack travel mm : 0.50
travel mm : Tolerance mm :	6.04 + 0.25	Tolerance mm : + 0.50 Rated speed rpm : 1200
TOLET GIVE 11811	I	nacca speca rpm . regu
Rated speed rpm :	470	
guide sleeve	+	LOW IDLE
travel mm :	3.78	
Tolerance mm :	+ 0.25	control layer
Pototi spand nom	1290	control lever position degree : 81.0
Rated speed rpm : guide sleeve	Ī	tolerance degree : +- 4.0
travel mm :	11.50	total allo dogleto
	+ 0.50	control lever
	+	position degree : 17.0
AUT. AL PRI - AA		tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	w †	Testing
Rated speed rpm :	1125	Testing:
Racea speed (pill .	. 1 600	

Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min. Rated speed rpm	: 5.40 : ← 0.10 : 150 : > 8.10	Aneroid pressure hPa : 1500 Rated speed rpm : 950 Del. quantity cm3/1000 strokes : 282.0 Tolerance cm3/7000 strokes : + 4.0 Check tolerance cm3/1000S. : + 6.0
TORQUE CONTROL		Aneroid pressure hPa:-
Datas amond non	. 700	Rated speed rpm : 500
Rated speed rpm rack travel mm	: 11.90	+ Del. quantity + cm3/1000 strokes : 197.0
Tolerance mm		Tolerance 1.6
Rated speed rom	: 950	+ cm3/1000 strokes : +- 1.0 - Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 11.90	cm3/1000s. : + 4.0
Tolerance mm	: +- 0.05	
<del></del>		BREAKAWAY
ANEROID/ALTITUDE	-	
COMPENSATOR TEST		† + Rack travel in mm : 10.90
	-	Rated speed rpm : 995
SETTING	-	Tolerance 1/min : + 5
Rated speed rpm	· 500 -	<del>†</del> <del>-</del>
December 500	. 200	
Pressure hPa	: 1500	
rack travel mm	: 11.90 -	STARTING FUEL DELIVERY
rressure nra rack travel mm Tolerance mm		+
rack travel mm	: 11.90 -	Rated speed rpm : 100 rack travel mm : 20.50
rack travel mm Tolerance mm MEASUREMENT	: 11.90 -	Rated speed rpm : 100
rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa	: 11.90 : + 0.05	Rated speed rpm : 100 rack travel mm : 20.50
rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm	: 11.90 : + 0.05 : : - : 500 : 9.20	Rated speed rpm : 100 rack travel mm : 20.50
rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm	: 11.90 : + 0.05 : : - : 500	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50
rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 11.90 : + 0.05 : : 500 : 9.20 : + 0.20	Rated speed rpm : 100 rack travel mm : 20.50
rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm	: 11.90 : + 0.05 : : 500 : 9.20 : + 0.20 : 500	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50  LOW IDLE Rated speed rpm : 250
rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm Pressure hPa	: 11.90 : + 0.05 : + 0.05 : 500 : 9.20 : + 0.20 : 500	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50  LOW IDLE  Rated speed rpm : 250 rack travel mm : 5.40
rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm	: 11.90 : + 0.05 : : 500 : 9.20 : + 0.20 : 500	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50  LOW IDLE  Rated speed rpm : 250 rack travel mm : 5.40 Tolerance mm : + 0.30 Del. quantity
rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm  Pressure hPa rack travel mm Tolerance mm	: 11.90 : + 0.05 : + 0.05 : 500 : 9.20 : + 0.20 : 500 : 350 : 10.30 : + 0.15	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50  LOW IDLE  Rated speed rpm : 250 rack travel mm : 5.40 Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 21.0
rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm  Pressure hPa rack travel mm Tolerance mm  Pressure hPa	: 11.90 : + 0.05 : + 0.05 : 500 : 9.20 : + 0.20 : 500 : 350 : 10.30 : + 0.15	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50  LOW IDLE  Rated speed rpm : 250 rack travel mm : 5.40 Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 21.0 Tolerance
rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm  Pressure hPa rack travel mm Tolerance mm	: 11.90 : + 0.05 : + 0.05 : 500 : 9.20 : + 0.20 : 500 : 350 : 10.30 : + 0.15	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50  LOW IDLE  Rated speed rpm : 250 rack travel mm : 5.40 Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 21.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance
rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm	: 11.90 : + 0.05 : + 0.05 : 500 : 9.20 : + 0.20 : 500 : 10.30 : + 0.15 : 600 : 11.40	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50  LOW IDLE  Rated speed rpm : 250 rack travel mm : 5.40 Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 21.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0
rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm	: 11.90 : + 0.05 : + 0.05 : 500 : 9.20 : + 0.20 : 500 : 10.30 : + 0.15 : 600 : 11.40	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50  LOW IDLE  Rated speed rpm : 250 rack travel mm : 5.40 Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 21.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed
rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm	: 11.90 : + 0.05 : - 0.05 : 500 : 9.20 : + 0.20 : 500 : 10.30 : + 0.15 : 600 : 11.40 : + 0.05	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50  LOW IDLE  Rated speed rpm : 250 rack travel mm : 5.40 Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 21.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 4.0
rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm Tolerance mm  Pressure hPa rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm  START CUT-OUT  Rated speed rpm	: 11.90 : + 0.05 : 500 : 9.20 : + 0.20 : 500 : 10.30 : + 0.15 : 600 : 11.40 : + 0.05	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50  LOW IDLE  Rated speed rpm : 250 rack travel mm : 5.40 Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 21.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance
rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm  START CUT-OUT  Rated speed rpm Check	: 11.90 : + 0.05 : 500 : 9.20 : + 0.20 : 500 : 10.30 : + 0.15 : 600 : 11.40 : + 0.05	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50  LOW IDLE  Rated speed rpm : 250 rack travel mm : 5.40 Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 21.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 4.0
rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm Tolerance mm  Pressure hPa rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm  START CUT-OUT  Rated speed rpm	: 11.90 : + 0.05 : 500 : 9.20 : + 0.20 : 500 : 10.30 : + 0.15 : 600 : 11.40 : + 0.05	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50  LOW IDLE  Rated speed rpm : 250 rack travel mm : 5.40 Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 21.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance
rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm  START CUT-OUT  Rated speed rpm Check	: 11.90 : + 0.05 : 500 : 9.20 : + 0.20 : 500 : 10.30 : + 0.15 : 600 : 11.40 : + 0.05	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50  LOW IDLE  Rated speed rpm : 250 rack travel mm : 5.40 Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 21.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance